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ABSTRACT

This guide is intended to provide local school district supervisors of transportation in Maryland with a ready reference on the transportation of children with special health care needs. An introduction offers decision guidelines and legal definitions under Maryland regulations. Basic information on the following conditions are then summarized: allergy, arthritis, asthma, autism, cardiac distress, cerebral palsy, diabetes, Downs syndrome, epistaxis, epilepsy, gastrostomy tube, hemophilia, hydrocephalus, hypertonia, incontinence, insect allergies, jejunostomy tube, leukemia, microcephaly, multiple sclerosis, muscular dystrophy, osteogenesis imperfecta, Rhett syndrome, spina bifida, tracheostomy, cytomegalovirus, hepatitis A, hepatitis B, herpes, human immunodeficiency virus, tuberculosis. Provided for each condition is a definition and information on signs and symptoms, precautions, and special equipment. Additional guidelines are given on emergency bus evacuation, notification of local medical and rescue assistance, delivery of special needs students to residence, and transporting medications. Much of the document consists of the following appendixes: "Federal and State Regulations Governing the Transportation of Students with Special Health Needs"; "Guide for Transportation of Children Utilizing Respiratory Therapy"; "Report on the Delineation of Roles and Responsibilities for the Safe Delivery of Specialized Health Care in the Educational Setting"; and "Wheelchairs and Assistive Devices for Special Needs Students Transported in the Maryland Public School System". (DB)

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Supervisor's Guide for Transporting Children With Special Health Needs

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SUPERVISOR'S GUIDE FOR TRANSPORTING CHILDREN

WITH SPECIAL HEALTH NEEDS

INTRODUCTION

Over the years, the number of special health needs children who are transported to school has increased appreciably. A significant portion of special education students has been transported on buses or other means solely designated for the transportation of the special education population. As more children are being placed in schools that provide a less restrictive environment, greater numbers of children with special needs are being transported on regular buses with the general student population. In addition, in past years many children with special health care needs, such as respiratory compromise, were not enrolled in school. This situation has changed, and there are now many of these children receiving school-based education services and transportation. This trend will continue.

The purpose of this guide is to provide the local supervisor of transportation with a ready reference to assist in answering questions dealing with the transportation of children with special health care needs. It should be noted that any suggested equipment should be provided by the student, parent or guardian.

Students With Special Health Care Needs

A special health needs child is an individual who is coping with a physical disability or an acute or chronic health problem. The goal in life for these children is to reach the highest level of health possible; to continue to develop emotionally, cognitively, and physically; and to attend school in the least restrictive environment. This section of the manual is meant to provide basic information for a transportation supervisor or bus driver on the medical conditions that may be found in student populations. It provides only a brief description of each medical problem. Each jurisdiction should develop its own policy and procedures for the care of the special health needs child. These policies and procedures should be individualized for the child based on input from the child's physician, parents/guardians, and the child.

Transportation and Special Education Students

The transportation of students who are medically fragile requires careful consideration of the following factors:

- o Development of safety standards and guidelines regarding structural integrity of mobile seating devices, appropriate methods of securing students, and occupant protection for students using mobile or adaptive seating equipment;

- Management of potential liability risks and the costs of providing services;
- Dissemination and utilization of information regarding the students' medical conditions;
- Training of transportation staff to safely transport the child with special health needs;
- Development of criteria upon which to base the determination on whether a technology-dependent student should be transported; and,
- Inclusion of transportation staff in the decision-making process prior to assigning the student to be transported.

Many important issues need to be addressed when planning for the education of the child who has special health care needs. When the student is a child with a disability who is eligible to receive special education and related services, then the requirements under federal and State regulations must be followed when making program decisions.

The definition of those eligible for special education and related services, contained in COMAR 13A.05.01, is as follows:

A. Handicapped Students.

> (1) "Handicapped students" means those students who have been determined through appropriate assessment (see Regulation .05C) as having temporary or long-term special educational needs arising from cognitive, emotional, or physical factors, or any combination of these. Their ability to meet general educational objectives is impaired to a degree whereby the services available in the general education program are inadequate in preparing them to achieve their educational potential.
>
> COMAR 13A.05.01.02A

Special Education is defined as:

B. Special Education.

> (1) "Special education" means instruction provided at no cost to the parents, which is specially designed to meet the unique needs of a handicapped student, and includes:

(a) Classroom instruction, home instruction, and instruction in hospitals and institutions.

(b) Physical education for the development of physical and motor fitness, fundamental motor skills and patterns, and skills in aquatics, dance, and individual and group games and sports (including intramural and lifetime sports). The term also includes special physical education and motor development.

(c) Vocational education directly related to the preparation of individuals for paid or unpaid employment or for additional preparation for a career requiring other than a baccalaureate or advanced degree.

(d) Speech pathology if the service consists of specially designed instruction to meet the unique needs of a handicapped student.

COMAR 13A.05.01.02C(1)

Additionally, there may be other supportive services needed to assist a student with disabilities to benefit from special education. These related services are defined in COMAR 13A.05.01.02D(1)(A) and include the following:

D. Related Services

(1) "Related Services" means transportation and such development, corrective, and other supportive services as are required to assist a handicapped student to benefit from special education... .

Further, under federal regulations, transportation is defined to include:

(i) Travel to and from school and between schools,

(ii) Travel in and around school buildings, and

(iii) Specialized equipment (such as special or adapted buses, lifts, and ramps), if required to provide special transportation for a handicapped child.

34#C.F.R.#300.13(b)(13)

An important component of the Maryland regulations is the establishment and maintenance of Admissions, Review, and Dismissal (ARD) Committee(s). Included in the responsibilities of the ARD Committee(s) are the following items related to referral, assessment, and eligibility:

(i) To receive all referrals of students identified as potentially in need of special education and related services.

(ii) To arrange for appropriate assessment of the students in Sec. C(5)(a)(i) in accordance with Regulation .05C and D. Assessments shall be completed within 45 calendar days of referral.

(iii) To review results of the assessments and determine the student's eligibility for special education and related services within 30 calendar days of completion of the assessments.
COMAR 13A.05.01.06C(5)(a)

Additional responsibilities are listed under individualized education program and placements. They are:

(i) To develop an individualized education program or to designate other individuals who will be responsible for developing or completing the individualized education program, in accordance with Sec. D, within 30 calendar days of determination of the student's eligibility for special education and related services. If the Admission, Review, and Dismissal Committee designates other individuals to develop or complete the individualized education program, it shall approve the individualized education program.

(ii) To determine all placements within the public agency based on the student's individualized education program and in accordance with the least restrictive environment. Unless a student's individualized education program requires some other arrangement, the student is educated in the school which he or she would attend if not handicapped. In selecting the least restrictive environment, consideration is given to any potentially harmful effect on the student or on the quality of service which he or she needs. In selecting the least restrictive environment, the public agency shall ensure that the student is placed in a program as close as possible to his or her house.

(iii) To recommend all nonpublic placements to the State Department of Education in accordance with Regulation .07 and State Government Article, 9-1508, Annotated Code of Maryland.

(iv) To consider the travel time required to transport the student to the program when considering appropriate placements. Transportation shall be provided to students

> in public and nonpublic facilities in accordance with the individualized education program.
>
> COMAR 13A.05.01.06C(5)(b)

Clearly, when addressing concerns related to a special education student who has special health needs, it is imperative that individuals who are knowledgeable about the child, specific health care procedures, the school, and the school system be involved in developing an individualized education program that addresses the student's needs.

A representative from the transportation department of the school system is an important member of the ARD Committee when decisions are made relating to transportation. Some of those decisions are:

- How will the child be transported to school?
- Will a special bus/vehicle be required?
- How long will the child be in transit?
- What equipment will be transported with the child?
- Will someone need to accompany the child for medical intervention and/or safety reasons?
- Who will accompany the child if necessary?
- What are the procedures in the event of a medical emergency?

Good communication is vital to successful development and implementation of the child's program. This requires that, from the start, all appropriate individuals wokk together with parents, medical representatives, and school staff to plan for the child with special health needs. Transportation personnel are key members of this team.

ALLERGY

DEFINITION: An allergy is an abnormal response by a person's immune system to certain substances entering the body.

SIGNS AND SYMPTOMS:

Mild
1. Hives
2. Nausea
3. Vomiting
4. Runny Nose
5. Sneezing
6. Watery Eyes
7. Rash
8. Wheezing

Severe
1. Shortness of Breath
2. Fainting
3. Increased heart rate
4. Decreased blood pressure
5. Shock

PRECAUTIONS:

1. If student is on medication for mild symptoms, drowsiness may occur. Escort student from the bus if the student appears drowsy.
2. For severe reactions, stop the bus and get help immediately.

EQUIPMENT:

None

ARTHRITIS

DEFINITION: Rheumatoid arthritis is a systemic (affecting the entire body) disease whose cause is unknown. It causes chronic inflammatory reactions in the joints. As a result, joints and supporting tissues erode. Swelling and joint deformity result. This leads to decreased ability to walk or coordinate.

SIGNS AND SYMPTOMS:

1. Joint pain, stiffness, swelling
2. Limitation of motion and loss of function
3. Muscular weakness
4. Weakness (May be present in all joint areas.)

PRECAUTIONS:

1. Ensure that student is seated securely or that wheelchair is secured.
2. Handle gently to minimize pain and/or injury.

EQUIPMENT:

None

ASTHMA

DEFINITION: Asthma is a lung condition recognized by repeated episodes of difficulty in breathing. This is brought on by exposure to an allergen or other factors, such as exercise, emotions, infection, and environmental irritants.

SIGNS AND SYMPTOMS:

1. Rapid movement of chest muscles to assist breathing
2. Increased rate of breathing
3. Audible "wheeze"

PRECAUTIONS:

1. Stop bus and send someone for assistance.

EQUIPMENT:

1. Child may carry inhalator and should self administer when possible.

AUTISM

DEFINITION: Autism is a physical disorder of the brain that causes a life-long developmental disability. The many different symptoms of autism can occur by themselves or in combination with other conditions.

SIGNS AND SYMPTOMS:
1. Failure to develop normal socialization
2. Disturbances in speech, language, and communication
3. Abnormal relationships to objects and events

4. Abnormal responses to sensory stimulations (touch, smell, noise, etc.)
5. Developmental delays and differences (Children with autism will display "scatter skills.")
6. A repetitive behavior
7. Violent temper tantrums (normally associated with any type of change)
8. Rocking

In addition to the signs and symptoms outlined above, some forms of autism involve blindness, deafness and mental retardation. Though autistic children may perform poorly in testing situations, they still may have good memory and motor coordination.

PRECAUTIONS:

1. Protection will depend on the behavior of the specific child as determined by the ARD Committee.

EQUIPMENT:

1. Protective helmet (when appropriate)

CARDIAC DISTRESS

DEFINITION: Cardiac distress results from a decrease in oxygen supply to the heart muscle.

SIGNS AND SYMPTOMS:

1. Pressure-like pain that may appear in chest area, jaw, shoulders, arms or back, or high abdominal area
2. Shortness of breath
3. Increased perspiration

PRECAUTIONS:

1. Stop the bus and get help immediately.

EQUIPMENT:

1. None

CEREBRAL PALSY

DEFINITION: This is a disorder that permanently disables an individual by disrupting muscle control. It is usually caused by a lack of oxygen or an insufficient amount of oxygen to the brain at some point in the individual's life.

SIGNS AND SYMPTOMS:

1. Spastic muscle movement
2. Inability to sit or walk in a normal upright manner
3. Uneven muscle tone
4. Weakness of muscle
5. Neuromuscular dysfunction - the inability to move an arm or a leg when signaled by the brain
6. Possible seizures

PRECAUTIONS:

1. Many children with cerebral palsy wear braces or are in a wheelchair.
2. Seizure precautions (See individual plan for care of child.)

EQUIPMENT:

1. Wheelchair (electric or manual)
2. Braces
3. Walker

DIABETES

DEFINITION: Diabetes is a condition in which the pancreas is altered in the way it works. The body cannot metabolize food it receives in a normal manner.

SIGNS AND SYMPTOMS:

1. Hyperglycemia - too much glucose (sugar) in the blood due to too much food, too little exercise, too little insulin, physical stress (illness), or emotional stress
    - thirst
    - dry mouth
    - frequent urination
    - dehydration
    - constant hunger
    - weakness
    - fruity odor to breath
    - infection/cut that does not heal
    - coma

2. Hypoglycemia - too little glucose (sugar) in the blood due to too little food (skipped meals), too much insulin, too much exercise, physical stress
    - headache
    - malaise, drowsiness, coma
    - nausea
    - sweaty, cold clammy skin
    - nervousness
    - confusion

PRECAUTIONS:

Stop the bus and get help.

EQUIPMENT:

Child may carry sugar replacement (sugar cubes, lifesavers) and self administer.

DOWNS SYNDROME

DEFINITION: Downs syndrome is a chromosomal abnormality.

SIGNS AND SYMPTOMS:

1. Mild, moderate or severe mental retardation
2. Poor muscle tone
3. May be hard to understand

PRECAUTIONS:

None

EQUIPMENT:

None

EPISTAXIS

DEFINITION: Nosebleeds

SIGNS AND SYMPTOMS: Bleeding from nostrils

PRECAUTIONS:

1. Have student apply pressure to bridge of nose for 5 minutes or until bleeding stops.
2. If the necessity arises for someone else to apply pressure, ensure that the person uses a barrier (gloves, tissues, etc) when risking exposure to blood.
3. If bleeding does not stop, obtain help.

EQUIPMENT:

None

EPILEPSY

DEFINITION: Epilepsy is a seizure disorder. Seizures are characterized by a number of symptoms, such as loss of consciousness and involuntary muscle spasms.

SIGNS AND SYMPTOMS:

1. Loss of consciousness
2. Muscle rigidity
3. Rocking and/or repetitive movements
4. Convulsions

PRECAUTIONS:

1. Do not restrain the person.
2. Remove any nearby objects that might cause injury.
3. Place something soft near the head or extremities, especially if the child is between bus seats.
4. Turn head or whole body to side to allow saliva to drain.
5. DO NOT FORCE ANYTHING INTO THE MOUTH.
6. Observe the seizure. Note the length of time the seizure lasts and if the victim looses control of bowel and bladder.
7. Stop bus and have someone call for assistance.

EQUIPMENT:

None

GASTROSTOMY TUBE

DEFINITION: A gastrostomy tube is a soft, flexible tubing inserted into the stomach whose purpose is to feed the child who is unable to eat.

SIGNS AND SYMPTOMS:

1. The tube is secured with tape near the site of the insertion
2. Vomiting may still occur through the mouth.

PRECAUTIONS:

1. Ensure that the free end of the tube is put in a place where the child can not pull on it or where it will not get caught by an object.
2. If the tube does become removed from the stomach opening, cover the hole with a dressing or bandage from the first

aid kit. Place the tube in a clean bag or container.
3. **DO NOT ATTEMPT TO REINSERT THE TUBE UNDER ANY CIRCUMSTANCES.**

EQUIPMENT:

1. Feeding pump and/or feeding syringe

HEMOPHILIA

DEFINITION: Hemophilia is an inherited condition in which the blood does not clot in the usual way or within the usual time. It leads to severe bleeding.

SIGNS AND SYMPTOMS:

1. Bleeding that does not stop after an injury (It may take an hour or longer for the blood to clot.)
2. Swollen joints due to bleeding after trauma
3. Bruising

PRECAUTIONS:

1. Observe for injury.
2. Secure carefully in the seat to avoid trauma.
3. Report any injury or bleeding.

EQUIPMENT:

None

HYDROCEPHALUS

DEFINITION: Hydrocephalus is a swelling in the brain caused by an occlusion which hinders normal cerebral spinal fluid flow. Children with hydrocephalus may have a shunt to drain the cerebrospinal fluid. A shunt is a tube inserted into the brain which allows drainage of excessive fluid to the liver, heart, or stomach.

SIGNS AND SYMPTOMS:

1. Dizziness
2. Muscle rigidity and spasms
3. Headache

PRECAUTIONS:

1. Avoid a blow to the head or body that would cause damage to the shunt.
2. Ensure that the child's head, if some degree of hydrocephalus exists, is in an upright position.

EQUIPMENT:

None

HYPERTONIA

DEFINITION: Hypertonia is an abnormal muscular contractility that results from a low oxygen state.

SIGNS AND SYMPTOMS:

1. Braces used to support the muscles
1. Pain due to prolonged contractions

PRECAUTIONS:

1. Prevent jarring to the extremities that are in braces.

EQUIPMENT:

1. Wheelchair (electric or manual)
2. Braces
3. Walker

INCONTINENCE

DEFINITION: The inability to control bladder and bowel functioning.

SIGNS AND SYMPTOMS:

1. Odor of urine or feces
2. Student is wet or soiled

PRECAUTIONS:

1. Refer to Resource Manual Handling Body Fluids in the School Setting To Prevent The Transmission Of Human Immunodeficiency Virus and Hepatitis B Virus when handling student or cleaning up body fluids.

EQUIPMENT:

Area should be inspected after student leaves. Universal precautions should be used when cleaning area.

INSECT ALLERGIES

DEFINITION: An insect allergy is an overreaction to bites or stings of certain insects.

SIGNS AND SYMPTOMS:

1. Noticeable swelling beyond the site of the sting (may extend beyond the nearest joint).
2. Severe reaction includes: difficulty in breathing, wheezing, and shock.

PRECAUTIONS:

1. Prevent exposure to insect if possible.
2. If stung, apply cold compress.
3. If student has a severe allergy and has an Epi-Pen, allow the student to self inject and observe for improvement. If no improvement, get help immediately.
4. If shock occurs, get help immediately.

EQUIPMENT:

1. Epi-Pen (self-administer only)

JEJUNOSTOMY TUBE

DEFINITION: A tube inserted below the stomach and into one of three parts of the small intestine. This tube allows simple formulas to be introduced into the small intestine for nourishment.

SIGNS AND SYMPTOMS:
1. Tube is secured with tape at the site of insertion.

PRECAUTIONS:

1. Make sure the free end of the tube is away from where the child or others could dislodge it.
2. If the tube is removed, cover the opening with a clean dressing. Place the tube in a clean bag or container.
3. **DO NOT ATTEMPT TO REINSERT THE TUBE UNDER ANY CIRCUMSTANCES.**

EQUIPMENT:

1. Feeding pump or syringe

LEUKEMIA

DEFINITION: Leukemia is a condition in which the white blood cells do not develop, mature or function properly.

SIGNS AND SYMPTOMS:

1. Hemorrhage
2. Infections
3. Weakness
4. Nausea and vomiting due to medications

PRECAUTIONS:

1. Report any change in physical condition.

EQUIPMENT:

None

MICROCEPHALY

DEFINITION: Microcephaly is a congenital anomaly characterized by a small head with an underdeveloped brain. During pregnancy the brain stops growing while the rest of the body continues to grow normally.

SIGNS AND SYMPTOMS:

1. Mental retardation

PRECAUTIONS:

None

EQUIPMENT:

1. Wheelchair (electric or manual)
2. Braces
3. Walker

MULTIPLE SCLEROSIS

DEFINITION: A disease affecting the muscle cells which interferes with vision, motion, and other neurological functions.

SIGNS AND SYMPTOMS:

1. Dizziness, thick speech, double vision
2. Weakness

PRECAUTIONS:

1. Guard against falls.
2. Ensure student is seated securely or that wheelchair is

secured.
3. Use caution if moving student.

EQUIPMENT:

1. Wheelchair (electric or manual)
2. Braces
3. Walker

MUSCULAR DYSTROPHY

DEFINITION: Muscular Dystrophy is a muscle disease which causes muscles to degenerate gradually.

SIGNS AND SYMPTOMS:

1. Progressive weakness and wasting of the same muscles on both sides of the body.
2. Muscular deformity
3. Loss of strength

PRECAUTIONS:

1. Ensure that child is securely maintained in bus seat or wheel chair.
2. Any movement of child should be done gently to minimize pain or discomfort.

EQUIPMENT:

1. Wheelchair (electic or manual)
2. Braces
3. Walker
4. As disease progresses, child may be mechanically ventilated.

OSTEOGENSIS IMPERFECTA

DEFINITION: A condition in which the cortex of bone remains thin and fragile, resulting in frequent fractures.

SIGNS AND SYMPTOMS:

1. Frequent fractures not due to trauma

PRECAUTIONS:

1. Use extreme caution when moving or helping student in the bus

EQUIPMENT:

1. Wheelchair (electric or manual)
2. Braces

RETT SYNDROME

DEFINITION: Rett Syndrome is a progressive, degenerative syndrome which has some characteristics similar to autism. It is characterized by developmental regression or loss of previously acquired skills. It occurs only in females.

SYMPTOMS:

1. Hand movements, such as wringing, squeezing, clapping, tapping, rubbing, mouthing
2. Breathing dysfunction including apnea (periods of no respirations)
3. Breathholding
4. Temper tantrums including screaming
5. Seizures
6. Spasticity

PRECAUTIONS:

1. Seizure precautions (Check the child's individual plan of care.)
2. If restraints are used, ensure that they are not too tight and are in place.
3. Observe respirations, change in skin tones, e.g., bluish tinge.

EQUIPMENT:

None

SPINA BIFIDA

DEFINITION: Spina bifida is caused by the malformation of the spinal column with cystic swelling around the spine.

SIGNS AND SYMPTOMS:

1. Paralysis of lower extremities
2. Probable loss of bowel and bladder control

PRECAUTIONS:

1. Ensure child is secure in wheel chair or bus seat.

EQUIPMENT:

1. Wheelchair (electric or manual)
2. Braces
3. Walker

TRACHEOSTOMY

DEFINITION: A tracheostomy is a surgical incision (cut) made through the neck (just below the Adam's apple) into the trachea or windpipe. Its purpose is to allow a person to breathe when a physical defect or disease does not allow proper passage of air through the mouth and nose. A tracheostomy tube is placed into the trachea to maintain an open airway.

SIGNS AND SYMPTOMS:

1. Shortness of breath
2. Blue color to lips and skin
3. Coughing
4. Thick secretions around nose or tracheostomy tube

PRECAUTIONS:

1. Stop the bus and obtain help.

EQUIPMENT:

1. Suction Machine
2. Emergency bag with back-up tracheostomy tube

INFECTIOUS DISEASE MANAGEMENT

In this section are several examples of infectious diseases that are prevalent in society today. It is important to understand that these diseases can be transmitted by mucous membrane secretions and also by blood. Therefore, universal precautions in handling body fluids should be taken. Universal precautions are ways to protect yourself from exposure to infectious diseases. They are to be used for all students whether or not you suspect they are infected. All body fluids should be handled as if they were infectious. Gloves and goggles should be available on all buses. Refer to the Resource Manual For Handling Body Fluids in the School Setting To prevent The Transmission of Human Immunodeficiency Virus and Hepatitis B Virus.

CYTOMEGALOVIRUS

DEFINITION: The Cytomegalovirus (CMV) is a viral infection that can affect a wide variety of organs and tissues. During infection the virus may be found in any of the following: blood, urine, saliva, sputum, semen, breast milk, uterine and cervical secretions, and tears. The virus is thought to be transmitted by contact with infected secretions from another person. However, it can be transmitted by a fresh blood transfusion or an organ transplant.

SIGNS AND SYMPTOMS:

None. Identified by medical diagnosis.

PRECAUTIONS:

Use universal precautions when handling blood and other body fluids.

HEPATITIS A

DEFINITION: Hepatitis A is a chemical, viral, or bacterial inflammation of the liver. The virus is normally spread through the feces of a contagious person. Hepatitis A is very contagious. After acquiring the virus, the infected person is thought to be most contagious 7 to 10 days before any symptoms develop.

SIGNS AND SYMPTOMS:

1. Malaise or fatigue
2. Low-grade fever
3. Headache

4. Sore muscles
5. Vomiting
6. Abdominal pain
7. Dark urine
8. Jaundice (yellow coloring of skin and whites of eyes)

Occasionally, the infected person has no signs or symptoms. Most people are not infectious one (1) week after the onset of jaundice.

PRECAUTIONS:

Use universal precautions when handling students who may have feces on person or clothing.

HEPATITIS B

DEFINITION: Hepatitis B is a viral inflammation of the liver. Hepatitis B is not spread through feces of a contagious person. It is spread through blood and sexual activity with an infected person. Hepatitis B is a very contagious virus.

SIGNS AND SYMPTOMS: The signs and symptoms typically noted are identical to those of Hepatitis A. The chance of liver failure is much higher.

PRECAUTIONS: Use universal precautions when handling all blood or other body fluids.

HERPES

DEFINITION: There are two types of Herpes: Herpes Simplex Type I (Oral Herpes) and Herpes Simplex Type II (Genital Herpes). Both types of Herpes are viruses. In healthy adults, neither are serious medical problems, but in the medically fragile child, they can be a serious medical complication.

SIGNS AND SYMPTOMS:

1. Red and sensitive skin
2. Blisters (Some may be open, and they are painful.)
3. Burning and itching
4. Swollen glands in the neck and groin
5. Headache
6. Fever similar to flu-like symptoms
7. Muscle aches

PRECAUTIONS:

Use universal precautions

HUMAN IMMUNODEFICIENCY VIRUS (AIDS)

DEFINITION: The Human Immunodeficiency Virus is more commonly referred to as AIDS. The AIDS virus affects the body's response to infection. The body cannot fight off simple infections. The common cold could be deadly. HIV can be transmitted through blood and body fluids.

PRECAUTIONS:

Use universal precaution at all times when handling blood and other body fluids. Treat all students as infectious.

TUBERCULOSIS

DEFINITION: Tuberculosis is a disease which normally attacks the lungs. It can cause extensive scarring of lung tissue and, consequently, severe lung problems if left untreated. Tuberculosis can be transmitted through inhaling an infected person's germs during coughing or sneezing.

SIGNS AND SYMPTOMS:

1. Chronic, nagging cough
2. Fatigue and weakness
3. Loss of appetite
4. Weight loss
5. Coughing up blood

PRECAUTIONS:

Use universal precautions when coming in contact with oral or nasal secretions.

EMERGENCY BUS EVACUATION

Although school bus drivers make numerous critical decisions in the normal course of their daily bus runs, few decisions are as critical as one regarding an emergency bus evacuation. For most drivers this would be a rare occurance. Most bus evacuations are the result of student transfers due to such non-emergency conditions as bus breakdowns, rather than the result of the bus being stalled on a railroad track with a train expected, or a bus engine compartment fire. However, a school bus driver must be prepared to make two decisions if the potential for evacuation is present: (1) do conditions necessitate an actual evacuation; and (2) how is the evacuation to be performed?

Do Conditions Necessitate An Actual Evacuation?

The decision regarding any evacuation must begin with an evaluation of the imminent danger of staying on the bus versus the danger of evacuating the bus. If there is minimal danger in remaining on a bus during a breakdown or other similar emergency incidents, the bus is the safest place to be. The bus is a familiar, comfortable environment for the students. Many students taken off a bus in a hurried fashion at an unfamiliar location might react unfavorably. Some students might panic and run, have seizures or convulsions, or act in a manner that could be dangerous to themselves or others.

There are some obvious circumstances in which an evacuation would not be necessary. These would include a disabled bus at a school or parent's house or at a location where the bus can be driven off the roadway to a safe parking location. Two situations require bus evacuation: fire or danger of fire and unsafe position.

How Is the Evacuation To Be Performed?

There is always the danger of injury when practicing an evacuation with children with special health care needs. It is recommended that professional staff members, either school administrators, nurses, occupational or physical therapists, be consulted regarding whether or not individual students should participate in a practice evacuation drill. In addition each student's equipment and health care needs during an emergency evacuation should be considered, particularly if the equipment is life-sustaining and is transported with the child. Examples of this type of equipment would be ventilators or oxygen.

It is suggested that even for the student with multiple health care needs, a bus driver and attendant should demonstrate a knowledge and ability to immediately disconnect all occupant restraint/securement hardware. At a minimum, the bus driver and attendant should be able to verbalize the sequence of student evacuation as part of the process. If any student is accompanied by a private duty nurse or other personal care attendant, the role that individual would play during an emergency evacuation should be clarified.

The maximum time available for an evacuation will likely be less than five minutes during an emergency. Because time is critical and because student safety is the first priority, students should be evacuated independent of any mobile seating device normally in use. Many of the various wheelchairs and seating devices have different occupant restraining systems designed to meet the individual physical needs of students. Consequently, prior to performing an emergency drill, it is recommended that bus drivers and attendants receive inservice training in proper and adequate lifting/carrying techniques. Training of this nature provides for the protection of the driver and attendant, as well as of the students. This training should also include instruction on the importance of being familiar with the individual restraining devices used on each student's wheelchair. Any training provided in this area should be conducted in cooperation with and under the supervision of the appropriate school staff.

NOTIFICATION OF LOCAL MEDICAL AND RESCUE TEAMS

Considering the fragile nature and medical risks of some children with special health care needs, it is possible that emergency situations will occur during the transportation process. This may require the assistance of local emergency medical or rescue personnel. It is beneficial for transportation personnel to provide medical and rescue personnel with advance information regarding possible emergency circumstances to which they may be requested to respond. Information should include:

- The types of medical emergencies which might be anticipated;
- The possible presence of infectious or communicable diseases;
- The kind of special support equipment which might be in use, such as oxygen equipment, ventilators, tracheostomy equipment, and other special adaptive or assistive devices; and,
- The emergency evacuation plans, including the operation of special equipment such as lifts, ramps, securement systems, and the location and operation of emergency exits.

DELIVERY OF SPECIAL NEEDS CHILDREN TO RESIDENCE

Situations may arise where no adult is at home to receive the student. Transportation staff is not equipped nor trained to provide extended care for students whose parents or guardians are not home, and for whom there are no alternate care givers listed or available. **Students should not be left alone or with neighbors or adults who are not authorized to receive the student.** The local board of education should establish written policy addressing this issue.

TRANSPORTING MEDICATION

Special health needs children often require the administration of medication while they are in school. This may cause a problem in the delivery of medications from home to school. As a result, transportation staff are often asked to transport the medication. On occasion, parents/guardians have placed medication in student lunch containers, plastic bags, or other packages for delivery to school without the knowledge of the transportation staff. This could produce a potentially dangerous situation if the medication was ingested by other students. The local board of education should establish written policy addressing this issue and ensure that parents/guardians are aware of the procedures.

GLOSSARY

ALLERGEN	A substance which produces an allergic response.
CORTEX	Refers to the center.
NEUROMUSCULAR	Relating to the nerves and muscles.
RESPIRATORY COMPROMISE	The inability of the respiratory system to function in the appropriate manner.
SHOCK	A state, usually caused by severe accident, illness, or injury, in which the amount of blood is reduced to such a degree that cells and tissue die.
SPASTIC	Uncontrollable, frequent, useless movement.
SPECIAL HEALTH NEEDS CHILDREN	An individual who is coping with a physical handicap or an acute or chronic health problem.

APPENDIX

Federal and State regulations governing the transportation of students with special health needs....................................Appendix A

Guide for Transportation of Children Utilizing Respiratory Therapy....................Appendix B

Report on the Delineation of Roles and Responsibilities for the Safe Delivery of Specialized Health Care in the Educational Setting...Appendix C

Wheelchairs and Assistive Devices for Special Needs Students Transported in the Maryland Public School System............................Appendix D

Appendix A

Federal and State Regulations Governing the Transportation of Students with Special Health Needs

Annotated Code of Maryland, Education Article, Section 8-412.

Section 8-412. **Transportation of handicapped children.**

(a) *County boards to provide transportation.*- Each county board shall provide or arrange for the transportation during the regular school year of each handicapped child who is in a placement approved in conformity with ss 8-403, 8-406, and 8-409 of this subtitle and applicable bylaws of the State Board and standards in:

(1) A public school;
(2) A school maintained by a State agency; and
(3) A nonpublic school.

(b) *Transportation outside the county of residency.* - The county board of the county in which the handicapped child resides shall certify and pay the cost of his daily or other reasonable transportation to school under the rules and regulations adopted by the State Board if:

(1) The school is outside this State or the county in which the child resides; and
(2) State aid has provided for the education of the child under this subtitle.

(c) *Rules and regulations; guidelines.* - (1) The rules and regulations adopted by the State Board shall take into consideration any hardship cases that reasonably may require additional expenses to guarantee adequate transportation during the regular school year.

(2) In addition to providing advice to the Motor Vehicle Administration under s 25-110 of the Transportation Article regarding the adoption by the Administration of rules and regulations relating to the safe operation of school vehicles, including vehicles and equipment appropriate for transporting handicapped children, the Department shall adopt guidelines which set minimum standards to meet in each of the following categories:

(i) The qualifications for hiring and training of drivers and aides, including private contract personnel, involved in handling and transporting handicapped children to Level V nonpublic special education facilities; and

(ii) The appropriate length of time and distance for transporting handicapped children to level V nonpublic special education facilities.

(d) *Reports to State Department; plan review.* - (1) By July 1 of each year any county that has 25 or more handicapped children attending Level V nonpublic education facilities shall submit to the State Department a detailed report, including any rules and regulations it has adopted since the submission of its last report, which outline the county's compliance with the State Department adopted guideline for the transportation of handicapped children to Level V nonpublic special education facilities.

(2) The State Department shall annually:

(i) Review each applicable county's plan or procedures for transporting handicapped children to Level V nonpublic special education facilities for compliance with the State Department's guidelines; and

(ii) Advise a county as to whether its plan or procedures are in compliance.

(e) *Review considerations.* - In both the adoption of guidelines under subsection (c)(2) of this section and the annual review under subsection (d) of this section of each applicable county's plan or procedures for transporting children to Level V nonpublic special education facilities, the State Department shall:

(1) Take into consideration the particular circumstances and needs of each applicable county, including the differences among urban and rural counties; and

(2) Recognize the need for flexibility on an individual client basis.

COMAR 13A.06.07.10

.10 Guidelines for Local School Systems Transporting 25 or more Handicapped Students to Level V Nonpublic Special Education Facilities.

A. This regulation implements Education Article, s8-412(c)(2),(d), and (e), Annotated Code of Maryland, which requires the State Department of Education to adopt guidelines for local school systems transporting 25 or more handicapped students to Level V nonpublic special education facilities, and any affected local school system to submit an annual report to the State Department of Education outlining compliance with the guidelines.

B. Drivers and Aides Involved in Handling and Transporting Handicapped Students to Level V Nonpublic Special Education Facilities.

(1) School vehicle drivers shall meet the requirements of Regulation .02B(2).

(2) Driver aides shall meet the requirements of Regulation .02B(3).

(3) Taxicab drivers shall:

(a) Meet all licensing requirements of the Motor Vehicle Administration;

(b) Pass the annual physical examination required by COMAR 11.19.05.01;

(c) Pass the psychophysical tests required by Regulation .02B;

(d) Have no evidence of a criminal record which in the opinion of the local superintendent or the superintendent's designee makes the individual unfit for employment; and

(e) complete pre-service and in-service instruction in accordance with sB(4).

(4) Pre-service and in-service instruction for school vehicle drivers, driver aides, and taxicab drivers involved in handling and transporting handicapped students to Level V nonpublic special education facilities shall include information on handicapping conditions, behavior management techniques, passenger safety restraints, emergency procedures, and other appropriate topics.

(5) Each local school system to which this regulation applies shall maintain a file for each school bus driver, driver aide, and taxicab driver involved in handling and transporting handicapped students to Level V nonpublic special education facilities outlining compliance with the requirements in sB(1)-(4).

C. Length of Time and Distance for Transporting Handicapped Students to Level V Nonpublic Special Education Facilities.

(1) The maximum length of time and distance for transporting a handicapped student to a Level V nonpublic special

education facility may not exceed 60 minutes and 45 miles one way.

(2) Each local school system to which this regulation applies shall determine trip time and distance for each handicapped student in a Level V nonpublic special education facility on or before October 1 and March 1 of each school year. The local school system shall make appropriate adjustments within 10 days if the riding time exceeds the maximum length of time and distance.

(3) A local school system may waive the maximum length of time and distance, with the written agreement of the parents of the handicapped student, if it is determined that the guidelines cannot be met due to the particular circumstances of a county or the need for flexibility on an individual basis.

D. Annual Report.

(1) Thirty days after the effective date of this regulation and July 1 of each year, each local school system to which this regulation applies shall submit a report to the Chief, Pupil Transportation Section, State Department of Education, outlining the local school system's plan or procedure for transporting handicapped students to Level V nonpublic special education facilities in accordance with these guidelines. The format of the report shall be prescribed by the State Department of Education and include but not be limited to the following:

(a) Pre-service and in-service instruction provided for school vehicle drivers, driver aides, and taxicab drivers in handicapping conditions, behavior management techniques, passenger safety restraints, emergency procedures, and other appropriate topics;

(b) Any waivers of the maximum length of time and distance; and

(c) Any regulations adopted since the submission of the last report for the transportation of handicapped students to Level V nonpublic special education facilities.

(2) The State Department of Education shall annually review each applicable local school system's plan or procedures for transporting handicapped students to Level V nonpublic special education facilities and advise the local school system as to whether its plan or procedure is in compliance with the guidelines.

COMAR 13A.06.07.02(3)

(3) Driver Aide. The driver aide shall:

(a) Be mature and command the respect of others;

(b) Have no evidence of a criminal record which in the opinion of the local superintendent of schools or his designee makes the individual unfit for employment;

(c) Have the ability to make appropriate decisions in emergency situations;

(d) Complete 2 hours of pre-service instruction and thereafter annually complete 2 hours of in-service instruction;

(e) Provide evidence of being free from communicable disease.

COMAR 13A.06.07.04(I)

I. Electric Powered Wheelchairs.

(1) Liquid-acid batteries may not be transported inside any school vehicle.

(2) Batteries shall be encased in an impact-resistant container.

(3) The battery container shall be securely fastened to the wheelchair.

(4) The battery container lid shall be securely fastened to the battery container.

(5) All electrical terminals not inside the battery container shall be protected from accidental contact.

APPENDIX B

PUPIL TRANSPORTATION SECTION
MARYLAND STATE DEPARTMENT OF EDUCATION
200 WEST BALTIMORE STREET
BALTIMORE, MARYLAND 21201

GUIDE FOR TRANSPORTATION OF CHILDREN UTILIZING RESPIRATORY THERAPY

The transportation of pupils who must continually or periodically use oxygen equipment presents a number of complex policy and procedural concerns. In an effort to provide safe and appropriate pupil transportation as well as education and protection for personnel, the following information is provided.

I. TRANSPORTATION SERVICE REQUESTS

A. The service for handicapped pupils will be requested through the already established procedures developed for services requests. These are available through the Division of Special Education, Maryland State Department of Education, or the local education agency (LEA).

B. Service for a non-handicapped child (regular pupil with special service requirement) will be requested through the established procedures for request for special services.

II. LOCAL HEALTH DEPARTMENT ROLE

A. The local health department should be represented on the ARD Committee.

B. The local health department should assist in determining qualifications for special aides along with the local department of education.

C. The local health department should assist with the development process in cooperation with the LEA to assure that aides meet appropriate qualifications.

III. OTHER RESOURCES

A. The Coordinating Center for Home and Community Care, P.O. Box 618, Severn Professional Building, Millersville, MD 21108, may serve as a resource.

B. Oxygen equipment manufacturers may supply materials and resource personnel.

IV. SPECIAL INSTRUCTION (SCHOOL BUS AIDE, NURSE, AND DRIVER)

A. The bus aide must be provided information on:

1. The appropriate emergency number (usually 911) to be called;
2. The type of problem to be communicated to emergency personnel when contacted;
3. How to report and what to report in an oxygen-related emergency; and
4. Basic safety procedures to follow until emergency personnel arrive.

B. The nurse/aide must know manual techniques for maintaining oxygen potency in the event of oxygen equipment malfunction.

C. The nurse, aide, and driver must be provided information on transporting oxygen as addressed in Part VII.

V. SCHOOL VEHICLE

A. A sign should be conspicuously posted near each door which specifies:

CAUTION - OXYGEN IN USE
NO SMOKING, NO OPEN FLAMES

B. All oxygen cylinders must be secured to prevent movement and leakage. All requirements specified by equipment manufacturers must be met.

C. When assigning seats, consider the student's proximity to heaters and other types of motors.

D. A two-way communication system should be provided if transportation is by school bus.

VI. EMERGENCY PROCEDURES

Procedures for accidents should be developed for situations when fire is not present as well as when a fire is present or likely.

VII. GENERAL CONCERNS IN THE USE OF OXYGEN

A. Small amounts of oxygen released would not normally create a particular hazard.

B. In an oxygen-enriched atmosphere, materials that are combustible and flammable in air ignite more easily and burn more vigorously.

C. The occurrence of a fire requires the presence of combustible or flammable materials, an atmosphere of oxygen, and a source of ignition. Combustible materials may be unavoidably present when oxygen is being administered, but flammable liquids and ignition sources are avoidable.

D. Combustible materials which may be found near children receiving respiratory therapy include, but are not limited to, hair, clothing, facial tissues, eyeglass frames, combs, etc.

E. A particular hazard exists when pressurized oxygen equipment becomes contaminated with oil, grease, or other combustible materials.

F. Oxygen-enriched atmospheres may exist in the immediate vicinity of all oxygen administration equipment.

G. Sources of ignition would include not only the usual ones in ordinary atmospheres but others which become significant hazards in oxygen-enriched atmospheres. Examples of these include open flames, burning tobacco, and electrical equipment such as heaters and other electrical motors. Additionally, certain types of sparking toys can create a potential source of ignition.

H. A hazardous condition exists if containers are located so that they may become overheated or tipped over.

I. Liquid oxygen can cause frostbite on contact with skin.

ESSB/PT
4/2/86

APPENDIX C

Report on the Delineation of Roles and Responsibilities for the Safe Delivery of Specialized Health Care in the Educational Setting

Developed By:

The Joint Task Force for the Management of
Children with Special Health Needs

American Federation of Teachers

Council for Exceptional Children

National Association of School Nurses

National Education Association

November 15, 1989

Members of

the

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PURPOSE

The purpose of this document is to:

- Assist health and education professionals in the management of children with special health needs in the educational setting by establishing a standard of practice which delineates roles and responsibilities for the safe delivery of specialized health care in the educational setting.

This document was developed based on the following principles:

1. Every student is entitled to a free, appropriate public education in the least restrictive environment.

2. The family is the constant in the child's life and should be an integral part of decision making regarding the provision of health care in school.

3. The provision of special health care procedures should promote developmentally appropriate student independence.

4. A multidisciplinary meeting which includes the family, and student where appropriate, should be conducted for every child with special health care needs for the purposes of reviewing the special health needs and the delineation of roles for services delivery.

5. Every child who has a special health care need requiring nursing care, intervention, and/or supervision should have a nursing care plan written by a nurse.

6. To the degree possible the delivery of any health care procedures should not significantly disrupt or have a negative impact on the educational process of the individual student.

7. To the degree possible the delivery of any health care procedure should not significantly disrupt or have a negative impact on the educational process of other students.

8. Personnel who are responsible for the education and care of children with specialized health care needs should receive training from persons qualified to provide such training.

9. Specialized health care procedures should be performed by qualified personnel who have received child specific training as defined by the child's principal health care providers and the child's family.

10. Appropriate resources and environmental conditions should be available to the personnel who are providing school health procedures.

BEST COPY AVAILABLE

OVERVIEW OF ISSUES RELATED TO CHILDREN WITH SPECIAL HEALTH CARE NEEDS IN EDUCATIONAL SETTINGS

In recent years advances in health care technology and procedures have increased survival rates for low birth weight infants, children with chronic illness, children with congenital anomalities, and survivors of trauma (Gittler & Colton, 1987). Higher survival rates have led to increases in the number of children with temporary or long term health care needs including technology assistance (U.S. Congress, Office of Technology Assessment, 1987).

Prior to the 1980s, children with long term special health care needs were cared for in hospitals. Federal and state policies of deinstitutionalization, cost considerations, and pressure from advocacy groups paved the way for increased utilization of home health care for children with chronic health problems (Foundation for Hospice and Homecare, 1987). Ireys (1988) reports that estimates of the number of children with disabilities and chronic illness varies between one and twenty percent of the pediatric population. Specialists in the Office of Technology Assessment (1987) estimate that 47,000 or more children require technology assistance each year. Child advocates support normalization of developmental outcomes for children with special health care needs, including school attendance in the least restrictive environment (Halamandaris, 1985). Children with chronic health impairments are entering school systems in unprecedented numbers and have presented unique challenges and opportunities for educational policy makers (Walker & Jacobs, 1985).

An ongoing challenge related to pediatric home health care is financing (Cabin, 1985; U.S. Congress, Office of Technology Assessment, 1987). Traditionally, public and private medical insurers covered the cost of hospital care (Munoz et al., 1989) while regulatory practices prohibited reimbursement for health care procedures performed at home. (Beckett, 1985.) Due to pressure from advocacy groups, families, and health care providers who felt that children should be home whenever possible, (Shelton, Jeppson & Johnson, 1987), medical insurance practices were revised and reimbursement for home health care costs were allowed. Home health care is less expensive than hospital care, but still costly. (Trost, 1988.) Costs for health care of children with special health care needs (e.g., children with technology dependence) have been especially high. (Trost, 1988.) Questions have arisen regarding responsibility for health care costs incurred during school attendance. "Public schools, pressed for funds, may often be reluctant to pay for additional full-time nurses and special transportation vehicles, and to assume legal liability for medical care during school hours. At the same time, private insurers -- and Medicaid -- will seek to minimize their costs of serving technology-dependent children at home by shifting financial responsibility to the schools." (U.S. Congress, Office of Technology Assessment, 1987).

There have also been challenges related to assignment of roles and responsibilities for carrying out special health care procedures (Committee on School Health, American Academy of Pediatrics, 1987; Johnson, Lubker, & Fowler, 1988; Mulligan-Ault, Guess, Struth, & Thompson, 1988; Palfrey, Singer, Walker, & Butler, 1986). Wood, Walker, and Gardner (1986) conducted a national survey of state health and education agencies to determine the existence of guidelines for select health care procedures in schools: (a) catheterization, (b) seizure management, (c) medication administration, (d) respiratory care, (e) tube feeding, (f) positioning, (g), colostomy/ ileostomy care, and (h) "others" (including allergy shots). Only six states had written guidelines for all eight procedures and 26 states had either no written guidelines or guidelines for medication administration only.

As the number of children with special health care needs in schools increases, the need for greater clarity regarding role delineation has also increased. Educators, health care providers, program administrators, and others have contacted specialists in their respective professional organizations for guidance. In response to this need, representatives from the National Association of School Nurses (NASN), National Education Association Caucus for Educators of Exceptional Children, (NEA-CEEC), Council for Exceptional Children (CEC), American Academy of Pediatrics (AAP), and the American Federation of Teachers (AFT) convened a Task Force in 1988 to examine issues, and provide recommendations regarding role delineation for those caring for children with special health care needs in educational settings. This document represents the recommendations of this Task Force. It is hoped that administrators, health care providers, and educators will find the information in this document useful in planning educational programs for children with special health care needs.

MATRIX ON PROFESSIONAL RESPONSIBILITIES FOR THE DELIVERY OF SPECIAL HEALTH CARE PROCEDURES IN EDUCATIONAL SETTINGS

The following matrix lists sixty special health care procedures which some children may need to have provided in educational settings. The procedures vary in the degree to which they require specialized knowledge and skill by persons conducting the procedure. Many are regulated by professional standards of practice. This matrix delineates the persons who are qualified to perform each of the procedures, who should preferably perform the procedures, and the circumstances under which these persons would be deemed qualified. It should be noted that the term qualified assumes that the individual has received appropriate training in the procedures.

(Delineation of responsibilities must adhere to each State Nurse Practice Act.)

PROCEDURE	PHYSICIAN ORDER REQUIRED	REGISTERED NURSE	LICENSED PRACTICAL NURSE	CERTIFIED TEACHING PERSONNEL	RELATED SERVICES PERSONNEL[1]	PARA PROFESSIONALS[2]	OTHERS[3]
1.0 ACTIVITIES OF DAILY LIVING							
1.1 Toileting/Diapering		A	A	A	A	Ⓐ	A
1.2 Bowel/Bladder Training (Toilet Training)		A	A	Ⓐ	A	S	S
1.3 Dental Hygiene		A	A	Ⓐ	A	S	S
1.4 Oral Hygiene		A	A	Ⓐ	A	S	S
1.5 Lifting/Positioning		A	A	A	A	S	S
1.6 Feeding							
1.6.1 Nutrition Assessment		A	X	X	N	X	X
1.6.2 Oral-Motor Assessment		X	X	X	(SP/TH)	X	X
1.6.3 Oral Feeding		A	A	A	A	Ⓢ	S
1.6.4 Naso-Gastric Feeding	*	Ⓐ	Ⓢ	X	X	S/HA	X
1.6.5 Monitoring of N-G Feeding		A	S	S	S	S	X
1.6.6 Gastrostomy Feeding	*	Ⓐ	Ⓢ	X	X	S/HA	X
1.6.7 Monitoring of Gastrostomy Feeding		A	S	S	S	S	X
1.6.8 Total Parenteral Feeding (Intravenous Feeding)	*	Ⓐ	Ⓢ	X	X	X	X
1.6.9 Monitoring of Parenteral Feeding		A	S	S	S	S	X
1.6.10 Naso-Gastric Tube Insertion	*	Ⓐ	Ⓢ	X	X	X	X
1.6.11 Naso-Gastric Tube Removal	*	Ⓐ	Ⓢ	EM	EM	EM/HA	X
1.6.12 Gastrostomy Tube Reinsertion	*	Ⓐ	Ⓢ	X	X	X	X

DEFINITION OF SYMBOLS

A Qualified to perform task, not in conflict with professional standards
S Qualified to perform task with RN supervision and inservice education
EM In emergencies, if properly trained, and if designated professional is not available
X Should not perform under any circumstances
N Nutritionist only
TH Occupational or physical therapist only
SP Speech/language Pathologist only
◯ Person who should be designated to perform task
HA Health Aide only

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1 Related Services include OT, PT, Nutritionist, Speech/language Pathologist.
2 Paraprofessionals include teacher aides, health aides, uncertified teaching personnel.
3 Others include secretaries, bus drivers, cafeteria workers, custodians.

(Delineation of responsibilities must adhere to each State Nurse Practice Act.)

PROCEDURE	PHYSICIAN ORDER REQUIRED	REGISTERED NURSE	LICENSED PRACTICAL NURSE	CERTIFIED TEACHING PERSONNEL	RELATED SERVICES PERSONNEL[1]	PARA PROFESSIONALS[2]	OTHERS[3]
2.0 CATHETERIZATION							
2.1 Clean Intermittent	*	Ⓐ	Ⓢ	X	X	S/HA	X
2.2 Sterile	*	Ⓐ	Ⓢ	X	X	X	X
2.3 Crede	*	A	S	S	S	S	S
2.4 External Catheter	*	Ⓐ	Ⓐ	S	S	S	X
2.5 Care of Indwelling Catheter (Not Irrigation)	*	Ⓐ	Ⓢ	S	S	S	X
3.0 MEDICAL SUPPORT SYSTEMS							
3.1 Ventricular Peritoneal Shunt							
3.1.1 Pumping	*	ⒺⓂ	ⒺⓂ	X	X	X	X
3.1.2 Monitoring	*	Ⓐ	S	S	S	S	X
3.2 Mechanical Ventilator							
3.2.1 Monitoring	*	Ⓐ	Ⓢ	EM	EM	S/HA	X
3.2.2 Adjustment of Ventilator	*	X	X	X	X	X	X
3.2.3 Equipment Failure	*	Ⓐ	Ⓢ	EM	EM	X	X
3.3 Oxygen							
3.3.1 Intermittent	*	Ⓐ	Ⓢ	EM	EM	EM	X
3.3.2 Continuous (Monitoring)	*	A	S	S	S	S	S

DEFINITION OF SYMBOLS

A Qualified to perform task, not in conflict with professional standards
S Qualified to perform task with RN supervision and inservice education
EM In emergencies, if properly trained, and if designated professional is not available
X Should not perform under any circumstances
N Nutritionist only
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SP Speech/language Pathologist only
○ Person who should be designated to perform task
HA Health Aide only

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1 Related Services include OT, PT, Nutritionist, Speech/language Pathologist.

2 Paraprofessionals include teacher aides, health aides, uncertified teaching personnel.

3 Others include secretaries, bus drivers, cafeteria workers, custodians.

(Delineation of responsibilities must adhere to each State Nurse Practice Act.)

PROCEDURE	PHYSICIAN ORDER REQUIRED	REGISTERED NURSE	LICENSED PRACTICAL NURSE	CERTIFIED TEACHING PERSONNEL	RELATED SERVICES PERSONNEL[1]	PARA PROFESS-IONALS[2]	OTHERS[3]
3.4 Hickman/Broviac/IVAC/IMED	*	Ⓐ	Ⓢ	X	X	X	X
3.5 Peritoneal Dialysis	*	Ⓐ	Ⓢ	X	X	X	X
3.6 Apnea Monitor	*	A	S	S	S	S	X
4.0 MEDICATIONS							
Medications may be given by LPN's and Health Aides only where the Nurse Practice Act of the individual state allows such practice, and under the specific guidelines of that nurse practice act.							
4.1 Oral	*	Ⓐ	Ⓢ	X	X	S/HA	X
4.2 Injection	*	Ⓐ	Ⓢ	X	X	X	X
4.3 Epi-Pen Allergy Kit	*	Ⓐ	Ⓢ	EM	EM	EM	EM
4.4 Inhalation	*	Ⓐ	Ⓢ	EM	EM	EM/HA	X
4.5 Rectal	*	Ⓐ	Ⓢ	X	X	EM/HA	X
4.6 Bladder Installation	*	Ⓐ	Ⓢ	X	X	X	X
4.7 Eye/Ear Drops	*	Ⓐ	Ⓢ	X	X	S/HA	X
4.8 Topical	*	Ⓐ	Ⓢ	X	X	S/HA	X
4.9 Per Nasogastric Tube	*	Ⓐ	Ⓢ	X	X	S/HA	X
4.10 Per Gastrostomy Tube	*	Ⓐ	Ⓢ	X	X	S/HA	X
4.11 Intravenous	*	Ⓐ	Ⓢ	X	X	X	X
4.12 Spirometer	*	Ⓐ	Ⓢ	X	X	S/HA	X

DEFINITION OF SYMBOLS

A Qualified to perform task, not in conflict with professional standards
S Qualified to perform task with RN supervision and inservice education
EM In emergencies, if properly trained, and if designated professional is not available
X Should not perform under any circumstances
N Nutritionist only
TH Occupational or physical therapist only
SP Speech/language Pathologist only
◯ Person who should be designated to perform task
HA Health Aide only

---

[1] Related Services include OT, PT, Nutritionist, Speech/language Pathologist.

[2] Paraprofessionals include teacher aides, health aides, uncertified teaching personnel.

[3] Others include secretaries, bus drivers, cafeteria workers, custodians.

(Delineation of responsibilities must adhere to each State Nurse Practice Act.)

PROCEDURE	PHYSICIAN ORDER REQUIRED	REGISTERED NURSE	LICENSED PRACTICAL NURSE	CERTIFIED TEACHING PERSONNEL	RELATED SERVICES PERSONNEL[1]	PARA PROFESSIONALS[2]	OTHERS[3]
5.0 OSTOMIES							
5.1 Ostomy Care	*	Ⓐ	Ⓢ	EM	EM	EM	X
5.2 Ostomy Irrigation	*	Ⓐ	Ⓢ	X	X	X	X
6.0 RESPIRATORY ASSISTANCE							
6.1 Postural Drainage	*	Ⓐ	Ⓢ	S	S	S/HA	S
6.2 Percussion	*	Ⓐ	Ⓢ	S	S	S/HA	S
6.3 Suctioning							
6.3.1 Pharyngeal	*	Ⓐ	Ⓢ	S	S	S/HA	X
6.3.2 Tracheostomy	*	Ⓐ	Ⓢ	S	S	S/HA	X
6.4 Trach Tube Replacement	*	(EM)	(EM)	EM	EM	EM	EM
6.5 Trach Care (Cleaning)	*	Ⓐ	Ⓢ	X	X	X	X
7.0 SCREENINGS							
7.1 Growth		Ⓐ	Ⓢ	S	S	S	X
7.2 Vital Signs		Ⓐ	Ⓢ	X	X	S/HA	X
7.3 Hearing		Ⓐ	Ⓢ	X	(SP)	S/HA	X
7.4 Vision		Ⓐ	Ⓢ	X	X	S/HA	X
7.5 Scoliosis		Ⓐ	Ⓢ	S	TH	S/HA	X

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PROCEDURE	PHYSICIAN ORDER REQUIRED	REGISTERED NURSE	LICENSED PRACTICAL NURSE	CERTIFIED TEACHING PERSONNEL	RELATED SERVICES PERSONNEL[1]	PARA PROFESSIONALS[2]	OTHERS[3]
8.0 SPECIMEN COLLECTING/TESTING							
8.1 Blood Glucose	*	Ⓐ	Ⓢ	X	X	S/HA	X
8.2 Urine Glucose	*	Ⓐ	Ⓢ	X	X	S/HA	X
9.0 OTHER HEALTH CARE PROCEDURES							
9.1 Seizure Procedures		A	A	A	A	A	A
9.2 Soaks	*	Ⓐ	Ⓢ	X	TH	S/HA	X
9.3 Dressings, Sterile	*	Ⓐ	S	X	X	X	X
10.0 DEVELOPMENT OF PROTOCOLS							
10.1 Health Care Procedures		Ⓐ	X	X	X	X	X
10.2 Emergency Protocols	*	NURSE WITH PHYSICIAN CONSULTATION					
10.3 IEP Health Objectives		Ⓐ	X	X	X	X	X
10.4 Nursing Care Plan		Ⓐ	X	X	X	X	X

DEFINITION OF SYMBOLS

A	Qualified to perform task, not in conflict with professional standards	N	Nutritionist only	HA	Health Aide only
S	Qualified to perform task with RN supervision and inservice education	TH	Occupational or physical therapist only		
EM	In emergencies, if properly trained, and if designated professional is not available	SP	Speech/language Pathologist only		
X	Should not perform under any circumstances	( )	Person who should be designated to perform task		

---

1 Related Services include OT, PT, Nutritionist, Speech/language Pathologist.

2 Paraprofessionals include teacher aides, health aides, uncertified teaching personnel.

3 Others include secretaries, bus drivers, cafeteria workers, custodians.

GLOSSARY

1.	Certification:	The process by which a state or organization authorized by a state government provides a credential to individuals.
2.	Delegation:	Nurses entrusting the performance of selected nursing tasks to competent persons who are not licensed nurses in selected situations. The nurse retains the accountability for the total nursing care of the individual.
3.	Educational Setting:	Any setting in which the student receives instruction, whether it be a school building, institution, or the home.
4.	Free Appropriate Public Education:	Special education and related services which are provided at public expense, which meet SEA (state education agency) standards, and are consistent with the student's individualized education program.
5.	Inservice Education:	Instructional programs that provide for continuing professional growth and development of all school related personnel.
6.	Least Restrictive Environment:	Procedures to assure that, to the maximum extent appropriate, handicapped children, including children in public or private institutions or other care facilities, are educated with children who are not handicapped, and that special classes, separate schooling, or other removal of handicapped children from the regular educational environment occurs only when the nature or severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily.

7.	**Licensure:**	Permission by a competent authority (usually a governmental agency) to an organization or individual to engage in a practice or activity, usually granted on the basis of education or examination.
8.	**Emergency:**	A serious situation that arises suddenly and threatens the life or welfare of a person; a crisis.
9.	**Medications:**	Any over the counter or prescription drug.
10.	**Multidisciplinary Team:**	Individuals representing family, education, health and administration who have assessed the student and/or will provide direct or indirect services to the student.
11.	**Nurse Practice Act:**	A statute enacted by the legislature of any of the states or by the appropriate officers of the districts or possessions. The act delineates the legal scope of the practice of nursing within the geographical boundaries of the jurisdiction.
12.	**Nursing Care Plan:**	Determines the course of action to be used by the nurse to meet the health needs of a student.
13.	**Health Aide (Nurse's Aide):**	A person who is employed to carry out basic specialized health care procedures in the care of students under the supervision of a registered professional nurse.
14.	**Licensed Practical Nurse (LPN):**	One who is licensed to administer care under the direction of a licensed physician or a registered nurse. May be a graduate of an accredited school for practical nursing or one who has practical experience only.

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15.	**Registered Nurse:**	A graduate nurse who is registered and legally licensed to practice by state authority. The professional nurse has responsibility for the care of individuals and groups through a colleague relationship with a physician, to function in making self-directed judgments, and to act independently in the practice of the profession.
16.	**Preservice Education:**	The academic and professional work done in a college or university before that person is certified as a teacher or other professional.
17.	**Qualified Personnel:**	Personnel who have been trained in certain procedures to a level of competence and safety which meets the objectives of the training.
18.	**Specialized Health Care Needs:**	The medically related services prescribed by the student's licensed physician that require training for the individual who performs the services which are necessary during the school day to enable the student to attend school.
19.	**Standard of Practice:**	That which is established by custom or authority as a model, criterion, or rule for comparison or measurement.
20.	**Supervision:**	Provision of guidance by a qualified nurse for the accomplishment of a nursing task or activity with initial direction of the task or activity and periodic inspection of the actual act of accomplishing the task or activity. Total nursing care of an individual remains the responsibility and accountability of the nurse.

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APPENDIX D

WHEELCHAIRS AND ASSISTIVE DEVICES FOR SPECIAL NEEDS STUDENTS TRANSPORTED IN THE MARYLAND PUBLIC SCHOOL SYSTEM

I. FOREWORD

In a continuing effort to insure the safety of special needs students transported by public school buses throughout the State of Maryland, a Transportation of Special Needs Students' Committee (TSNSC) was established. A specific charge of TSNSC was to identify acceptable equipment for use in the transportation of special needs students. The areas to be addressed include, but are not limited to, wheelchairs, guidelines and procedures, battery applications, suction machines, oxygen equipment, restraining/securing devices, and other apparatus that assist special needs students.

In addition to providing guidance to administrative transportation personnel, this information should serve a variety of other functions:

* Provide parents with a recommended choice of wheelchairs and equipment, and when applicable, prescribe certain standards. It is hoped that this information will prevent the costly mistake of purchasing equipment identified as not suitable for transportation on school buses. Wheelchair types are divided into three (3) sections: "Recommended", "Not Recommended", and "Not Recommended But Acceptable." When available, specifications, special features, and bus-attachment procedures for wheelchairs are provided.

* Provide transportation personnel with a variety of wheelchair and equipment types that may be encountered on their routes, and specific instructions for securing wheelchairs safely to the bus.

* Inform the public as to what steps are being taken to provide safe transportation for special needs students.

* Provide a tool for sales persons, manufacturers in the wheelchair industry, and school system personnel to use when assisting parents in making a decision in purchasing wheelchairs and equipment.

For those wheelchairs identified as not recommended, an attempt is made to satisfactorily answer the question "why" and provide a brief history of the past problems encountered in wheelchair transportation. Secondly, recognizing that these wheelchairs may have to be used to transport students, recommended tie-down procedures are included, if known.

II. Acknowledgment

The TSNSC gratefully acknowledge the Portland Public Schools Transportation System, Safety/Training Section for a significant amount of the information supplied in this document. Rather than "reinvent the wheel" permission was requested and granted by Mr. Edward Green, Director of Transportation for the Portland Public Schools, to modify and adapt their Bus Us Safely, Wheelchair and Safety Tie-Down Procedures for Physically Handicapped Transportation handbook to meet the needs of the Maryland Public School System. Information also was obtained from the Wheelchair Occupant Restraint Assemblies for Motor Vehicles published by the Standards Association of Australia.

III. Historical Background

Maryland Public Schools have been transporting handicapped students on school buses since the early sixties. Each year the number of special needs students increases, and as the need for additional wheelchair and equipment to assist students becomes apparent, new buses are added or existing buses modified to meet the need.

Typically, special education buses are equipped with a variety of power lifts for loading and unloading wheelchair students. These electric lifts are supplemented with a manually-operated backup system in the event of a power-system failure.

The operation of the power lift can be controlled by the driver and/or attendant either from the ground or from the ramp. This flexibility allows the driver and/or attendant to ride up and down on the ramp with the student if necessary. As an added measure of safety, a metal plate on the outer edge of the ramp is provided to prevent the wheelchair from accidentally rolling off the ramp.

In addition to the power lift, the interior of the bus includes several conventional bus seats as well as two (2) to four (4) wheelchair spaces. In Maryland, wheelchairs are positioned in the bus utilizing a side-facing and/or forward-facing position. It should be noted that nationally it is recommended that wheelchairs be secured in a forward-facing position. Securement has been in one of two different ways:

* All conventional upright wheelchairs (those with two (2) large rear wheels, two (2) small front wheels, and a standard chair-type seat) are backed against the side wall of the bus (side-facing position). Rear wheels are secured by sliding an iron pin into one side of a factory manufactured bracket extending from the side wall, through the spokes of the wheelchair, and into the other side of the bracket.

Wheel brakes are set to prevent lateral front movement. The wheelchair is then secured by a seat belt that is attached to the bus.

* Wheelchairs of the "orthokinetic" type (two (2) small wheels in front of a tilted seat) are secured by factory manufactured wall and/or floor brackets and drop pins. Front wheel-locks are set and a seat belt attached to the bus is placed around the wheelchair.

In both cases described above, it is important to note that the students are secured to the wheelchair by means of a seat belt independent of the seat belt attached to the bus.

While this system, and variations thereof, have proven adequate, a desire for increased security, side-to-side chair stability, differences and complexity in wheelchair equipment, and the flexibility to accommodate new wheelchair apparatus as it becomes available has prompted an increase in the use of metal floor brackets. Metal floor brackets are used to anchor heavy-duty nylon "tie-down" straps to the bus. These straps are attached to the chair at four (4) points (two (2) in back, two (2) in front), and are tightened by hand or a ratchet device. When properly tied down, the wheelchair will not move. As before, a seat belt is passed around the student, and secured to the chair. Specific information regarding the securement of various wheelchair configurations is provided in Section IV of this document.

Over the years, concerns have been raised regarding safety problems with certain types of wheelchairs and equipment used to transport the special needs student. Some wheelchairs (and attached apparatus, if applicable) do not fit in the allotted space, while others do not fit safely on the power lifts. Difficulties with velcro lap belts, harnesses, various restraining equipment, and other life supporting apparatus required by special needs students have also been experienced. There are concerns with acid-batteries used on electric wheelchairs. Finally, concerns regarding the structural integrity of wheelchairs have prompted Supervisors of Transportation throughout the nation to revisit the equipment and procedures used to transport special needs students.

IV. WHEELCHAIR GUIDELINES AND EQUIPMENT CATALOG

General: Several factors are important in the choice of wheelchairs and special seating used in wheelchairs. Consequently wheelchair students may be best served overall by wheelchairs which are not ideal for use in motor vehicles. Therefore, these guidelines should not be taken as binding but, where feasible, they should be followed.

Design and Construction: Although wheelchairs are not intended to withstand loads generated by heavy impact, it has been shown that some common types of wheelchairs, both battery-powered and manual, can be restrained without fracturing of the metal parts or tearing of the upholstery.

Wheelchairs used in school buses should have a metal frame to which the wheels and upholstery are attached, and if possible, should have a high back rest. Examples of this type are illustrated in Section IV.A. of this document.

Certain types of wheelchairs are considered unsuitable for use in school buses, because of potentially hazardous projections, unsuitable seating height, weak frame components or supporting surfaces, unsuitable battery position, or means of restraining the battery. Section IV.B. identifies those wheelchairs that have been judged not acceptable to transport students in school buses.

Head Restraint: In the absence of a head restraint incorporated in the wheelchair occupant restraint assembly, a measure of protection against neck injury in a rear impact may be provided by fitting a back-rest extension to the wheelchair, to bring up the back-rest upholstery level with the head. Any metal crossbar in the back-rest extension should be effectively padded. A back-rest extension should be securely fastened to the wheelchair uprights, or fitted into the upright ends of back-rest tubing. Metal tubing for the back-rest extension should be of the same cross-section as the back-rest upright, or of a size that fits closely within the back-rest upright tubing. Any extended back-rest modifications and/or extensions should be done by the wheelchair manufacturer.

Postural Supports: Some students in wheelchairs need support straps to help maintain correct posture in their wheelchair. These postural supports may offer very little protection in the event of a vehicle accident and cannot be regarded as substitutes for a properly designed occupant restraint assembly. Strongly made postural supports may, in fact, restrain wheelchair students in ways likely to cause injury in a vehicle accident. Appropriate postural support straps may use plastic hook and loop fasteners or light buckled leather straps.

Battery Restraint: The batteries of an electrically powered wheelchair may account for more than half the mass of the wheelchair, and are potentially very dangerous as missiles in a vehicle accident. Other hazards include inhalation of acid or toxic fumes. Additional hazards are leakage of acid, and the danger of fires or acid burn injuries in the event of an accident. For these reasons only gel-cell batteries are permitted on electrically powered wheelchairs transported on public school buses in Maryland. Specific COMAR regulations pertaining to this subject are identified in Section IV.F.

Although some types of battery carriers have been shown to be of adequate strength for safety in an accident, many battery carriers utilized in wheelchairs are not. For example, shallow battery trays may not effectively restrain batteries because of their low wall height and/or protect the battery terminals against short-circuit. The battery should be securely attached to the wheelchair frame. Batteries should be located as low as possible, consistent with adequate ground clearance. The top of the battery should be below seat level.

Wheelchair Trays and Fittings: Wheelchair trays are potentially hazardous to a wheelchair student and to other children on the bus. Being a rigid object immediately in front of a wheelchair student, a tray could cause abdominal or head injuries in the event of a frontal impact. Additionally, if a tray came free in an accident, it could inflict injuries on other students.

It is recommended that wheelchair trays be removed during transit, and stored securely in an appropriate place in the the bus if possible. This recommendation also applies to loose wheelchair fittings or cushions. Any large fittings, cushions, or seating units that cannot be removed from the wheelchair, should be secured to the wheelchair frame in a manner that will prevent them from tearing free.

Special seating is frequently used in wheelchairs, comprising wooden inserts or molded thermoplastic units which may have metal reinforcement or upholstered surfaces. Any special seating should be fastened securely to the wheelchair frame.

In summary, the desirable features of wheelchairs used to transport special needs students on school buses should include the following:

1. Tubular metal frame

2. Four (4) wheels

3. High back rest, preferably with an extension to protect the head and neck.

4. **Batteries (where used) carried below seat height and adequately secured.**

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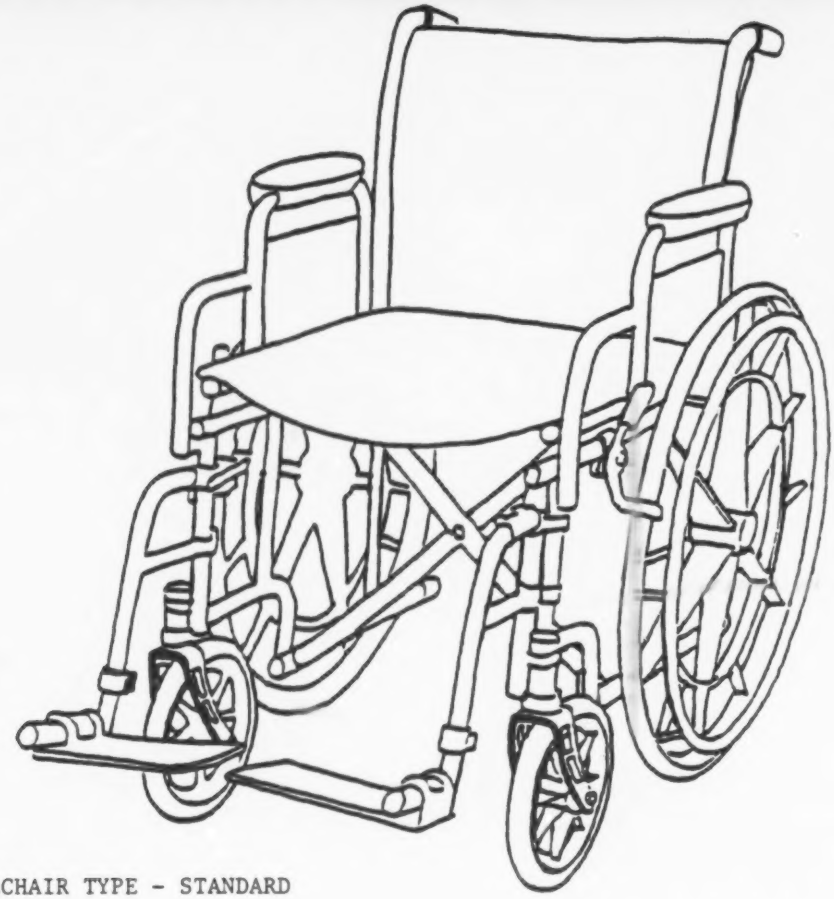
IV. EQUIPMENT CATALOG

A. WHEELCHAIRS RECOMMENDED FOR TRANSPORTATION



A. WHEELCHAIR TYPE - STANDARD

Width	22" to 25-1/2"
Height	33" to 36-1/2"
Length	31" to 31-1/2"
Weight	37 to 42 lbs.

MANUFACTURERS - Ivancare, Everest, Jennings, Duratech

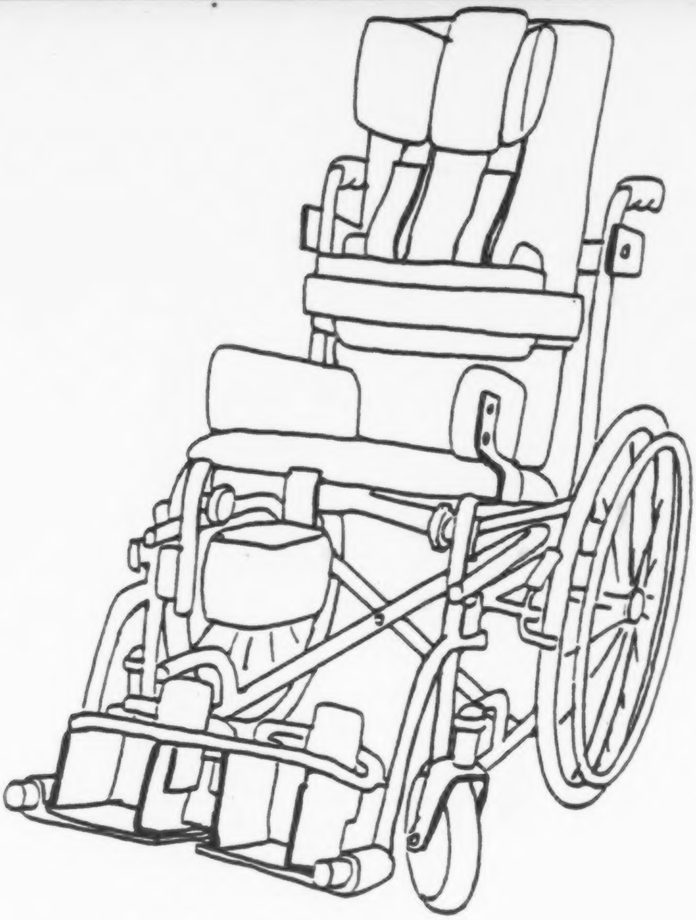
B. TIE-DOWN PROCEDURES

1. Secure wheel locks*
2. Apply wheelchair brakes
3. Rear tie down at waist level
4. Front tie down at knee level
5. Secure bus seat belt around armrest

C. SAFETY FEATURES

1. Wheelchair brakes
2. Wheelchair seat belt
3. Foot straps and anti-tippers (optional)

*If bus is so equipped.



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1. Apply wheelchair brakes
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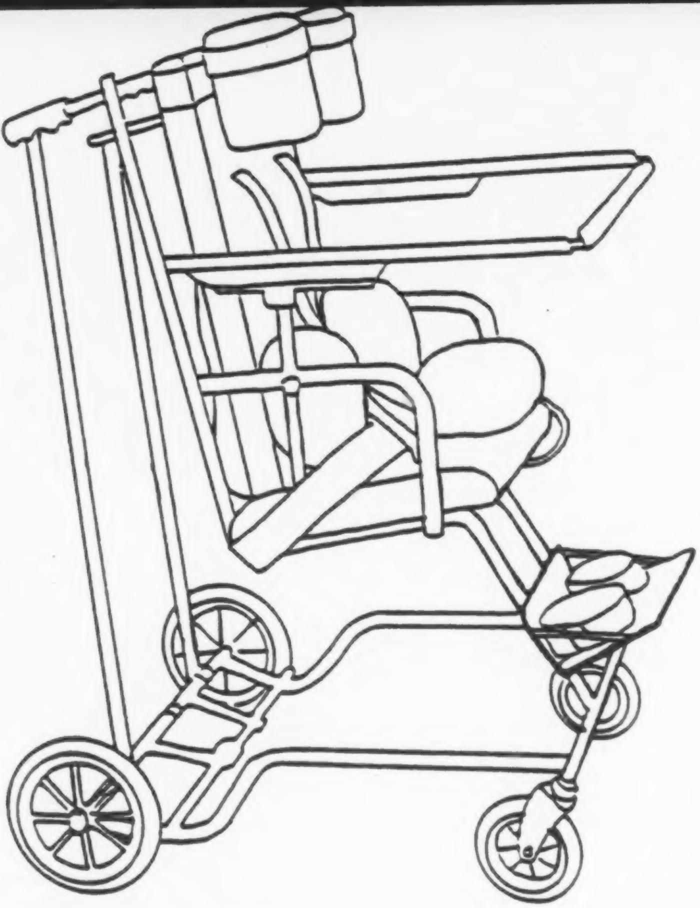
4. Front tie downs at knee level
5. Secure school bus seat belt around armrest

C. SAFETY FEATURES

1. Wheelchair brakes
2. Wheelchair seat belt
3. Foot straps and anti-tippers (optional)

*If bus is so equipped.



A. WHEELCHAIR TYPE - SAFETY TRAVEL

Width	19"
Height	40"
Length	30"
Weight	Unknown

MANUFACTURER - Ivancare

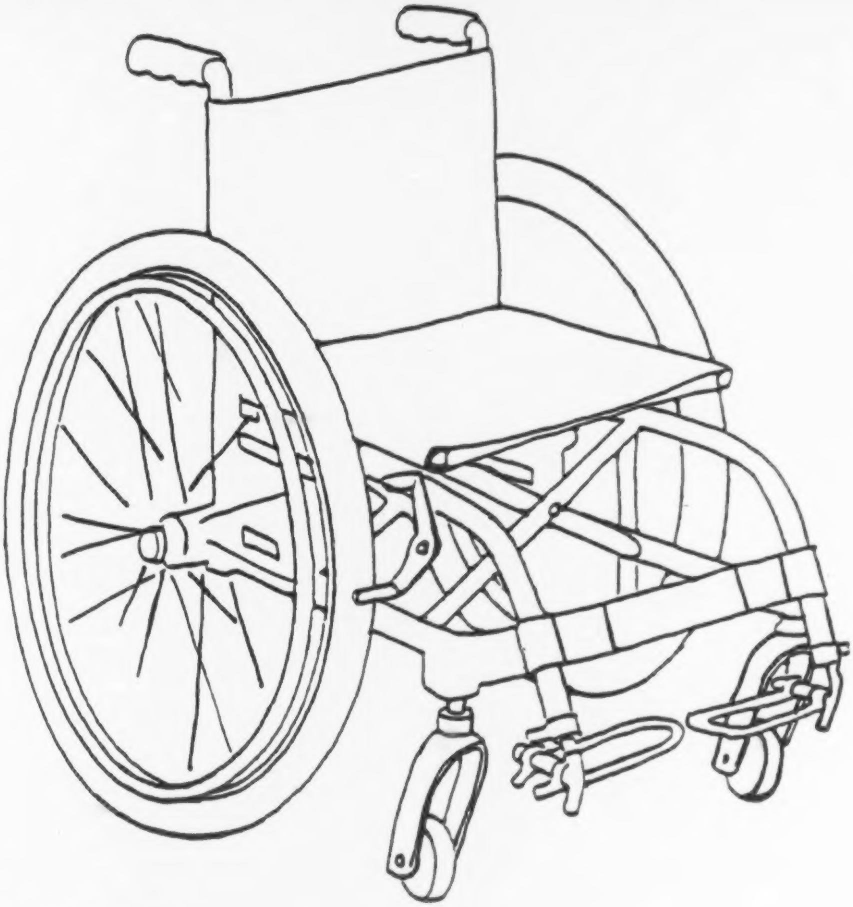
B. TIE-DOWN PROCEDURES

1. Apply axle lock*
2. Apply wheelchair brakes
3. Rear tie downs at waist level
4. Front tie downs at knee level
5. Secure school bus seat belt around armrest

C. SAFETY FEATURES

1. Seat belt
2. Foot brake
3. Foot straps (optional)

*If bus is so equipped.



A. WHEELCHAIR TYPE - QUADRA

Width	23"
Length	38"
Height	39"
Weight	23 lbs.

MANUFACTURER - Ivancare

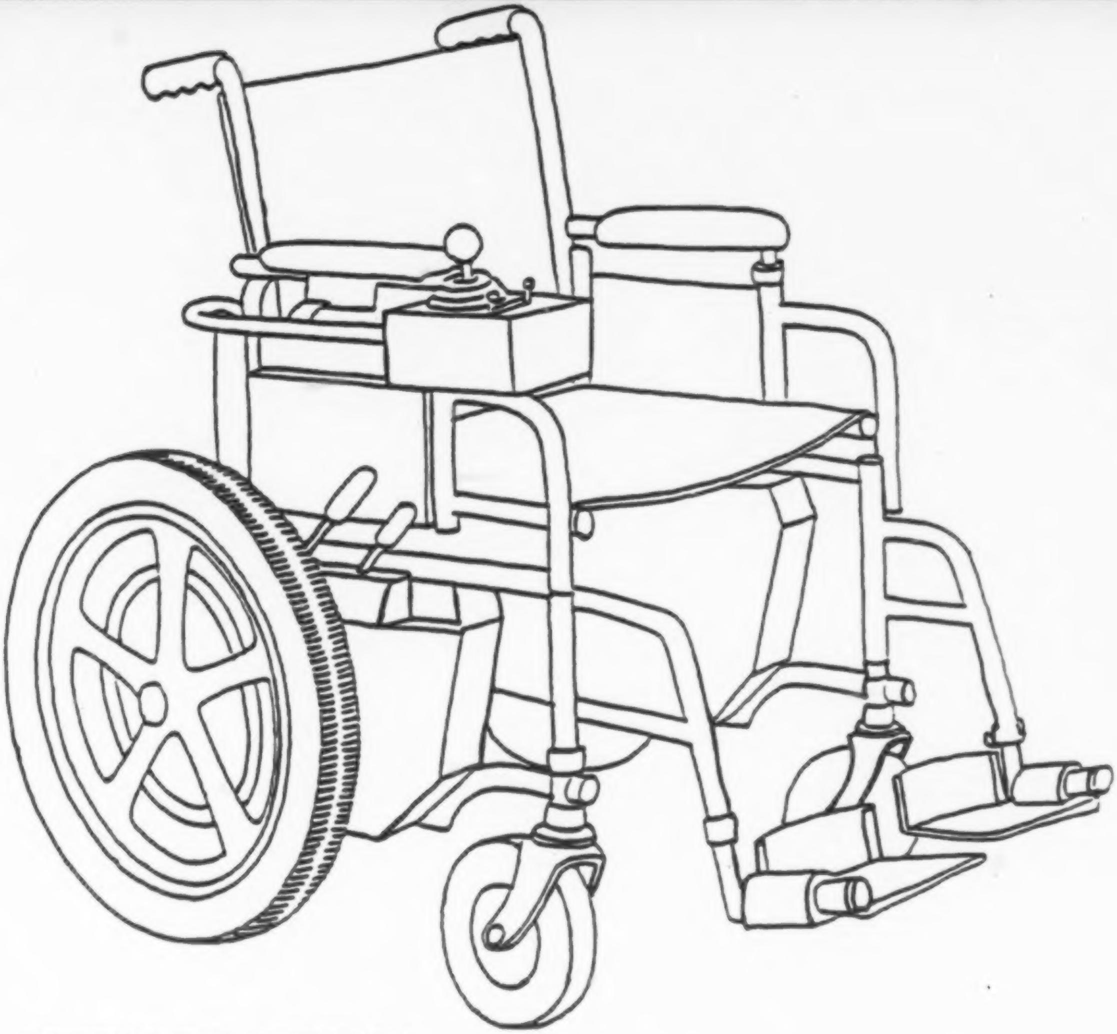
B. TIE-DOWN PROCEDURES

1. Apply wheelchair locks*
2. Apply wheelchair brakes
3. Rear tie downs at waist level
4. Front tie downs at knee level
5. Secure school bus seat belt around child's waist

C. SAFETY FEATURES

1. Seat belt
2. Wheelchair brakes
3. Foot straps and anti-tippers (optional)

*If bus is so equipped.



A. WHEELCHAIR TYPE - ELECTRIC

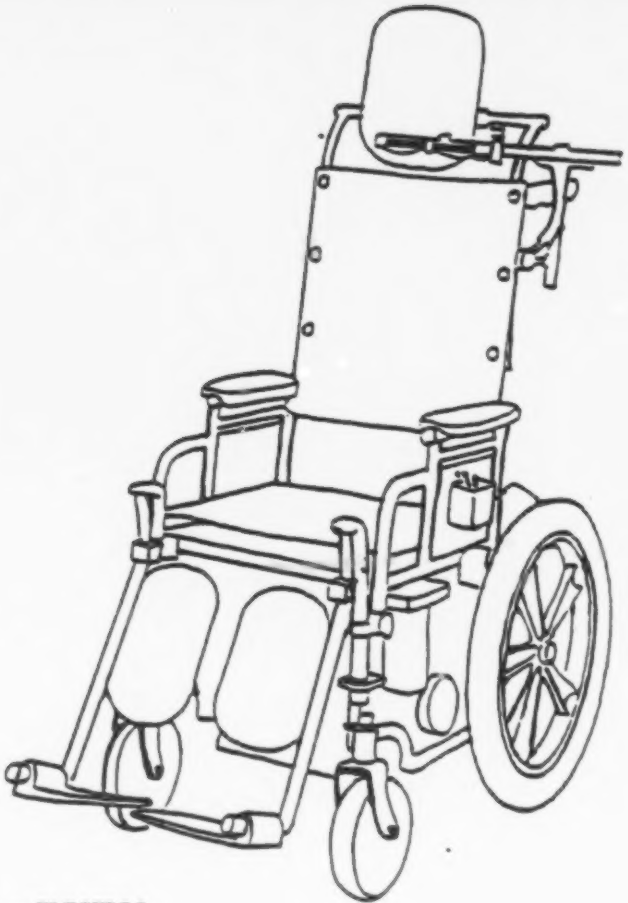
Width	26"
Height	37-1/2"
Length	33"
Weight	190 lbs.
Battery	Two Twelve Volt
Battery Type	(Gel or Acid)

MANUFACTURERS - Ivancare, Everest, Jennings

B. TIE-DOWN PROCEDURES

1. Apply wheelchair locks*
2. Apply wheelchair brakes
3. Rear tie downs at waist level
4. Front tie downs at knee level
5. Secure school bus seat belt around armrest

*If bus is so equipped.



A. WHEELCHAIR TYPE - ELECTRIC

Width	26"
Length	33"
Height	40"
Weight	190 lbs.
Battery	Two Twelve Volt
Battery Type	(Gel or Acid)

MANUFACTURERS - Ivancare, Everest, Jennings

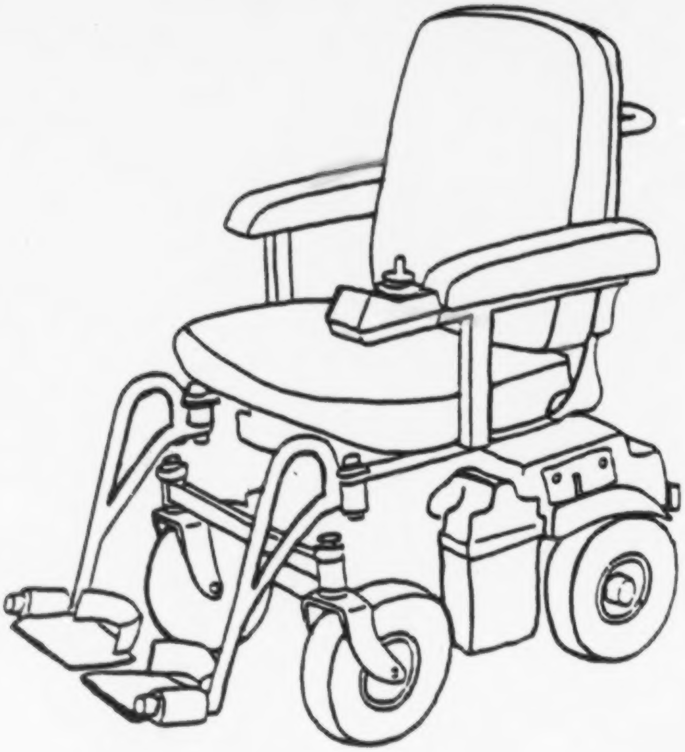
B. TIE-DOWN PROCEDURES

1. Apply wheelchair locks*
2. Apply wheelchair brakes
3. Rear tie downs at waist level
4. Front tie downs at knee level
5. Secure school bus seat belt around armrest

C. SAFETY FEATURES

1. Wheelchair seat belt
2. Wheelchair brakes
3. Foot straps and anti-tippers (optional)

*If bus is so equipped.



A. WHEELCHAIR TYPE - ELECTRIC

Width	24"
Length	41-1/2"
Height	37-1/2"
Weight	145 lbs.
Battery	Two Twelve Volt
Battery Type	(Gel or Acid)

MANUFACTURER - Fortress

B. TIE-DOWN PROCEDURES

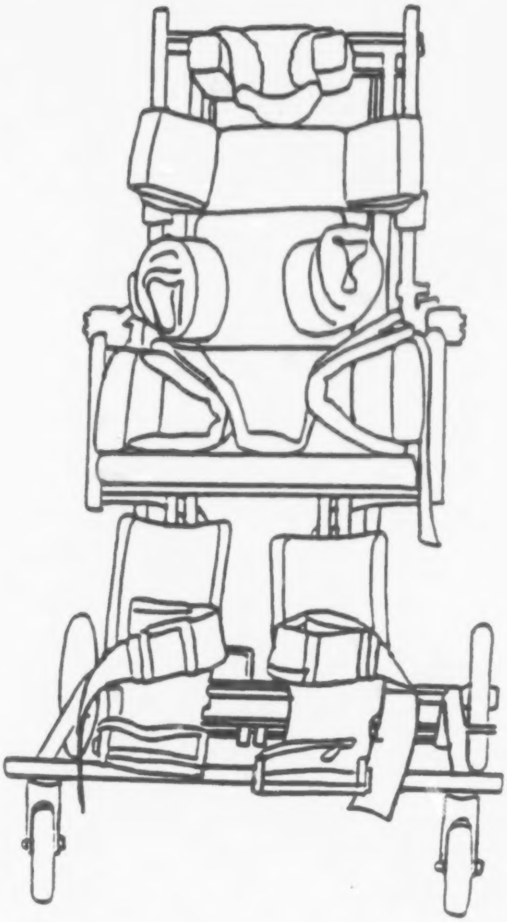
1. Apply wheelchair brakes
2. Rear tie downs at waist level
3. Front tie downs at knee level
4. Secure school bus seat belt around armrest

C. SAFETY FEATURES

1. Wheelchair brakes
2. Wheelchair seat belt
3. Foot straps and anti-tippers (optional)

IV. EQUIPMENT CATALOG

B. WHEELCHAIRS NOT RECOMMENDED FOR TRANSPORTATION



A. WHEELCHAIR TYPE - SAFETY TRAVEL

Width	19"
Height	40"
Length	30"
Weight	Unknown

MANUFACTURER - Ivancare

This chair is unacceptable for transport because:

1. It is structurally unsound,
2. It easily collapses, and
3. It has an inadequate wheel-locking system.

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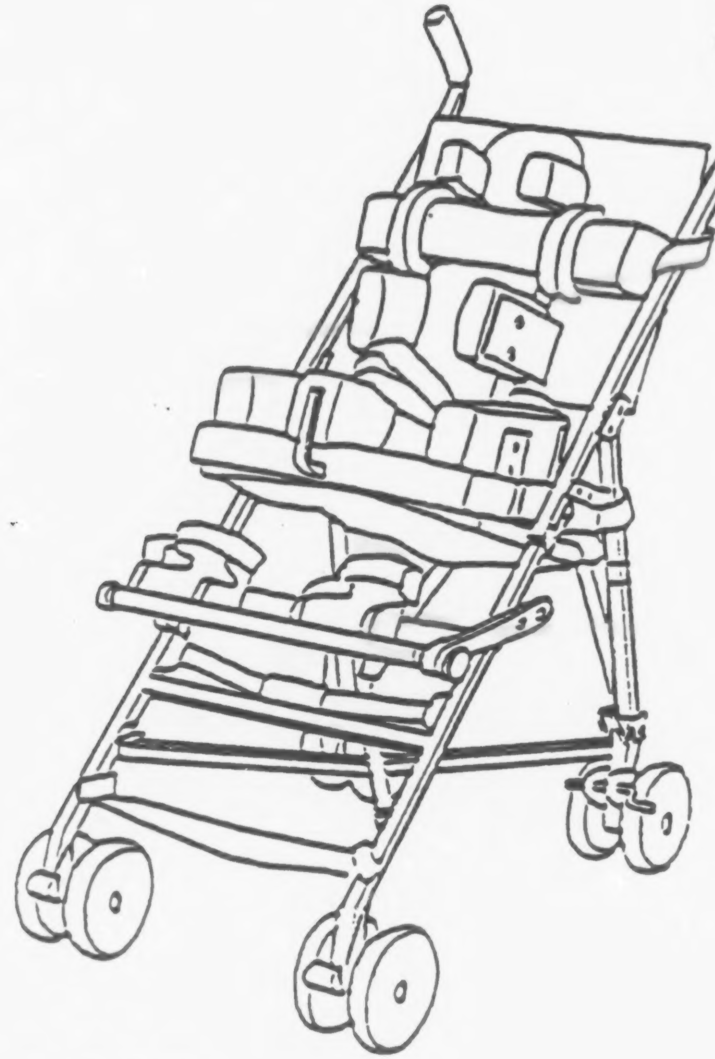
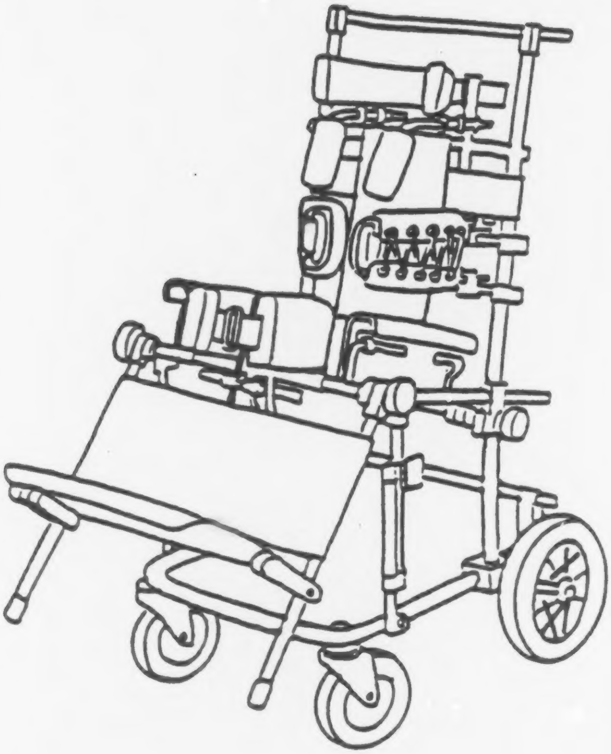


WHEELCHAIR TYPE - STROLLER

Width	21"
Height	41"
Length	34"
Weight	Unknown

This chair is unacceptable because:

1. It is structurally unsound,
2. It easily collapses, and
3. It has an inadequate wheel-locking system.

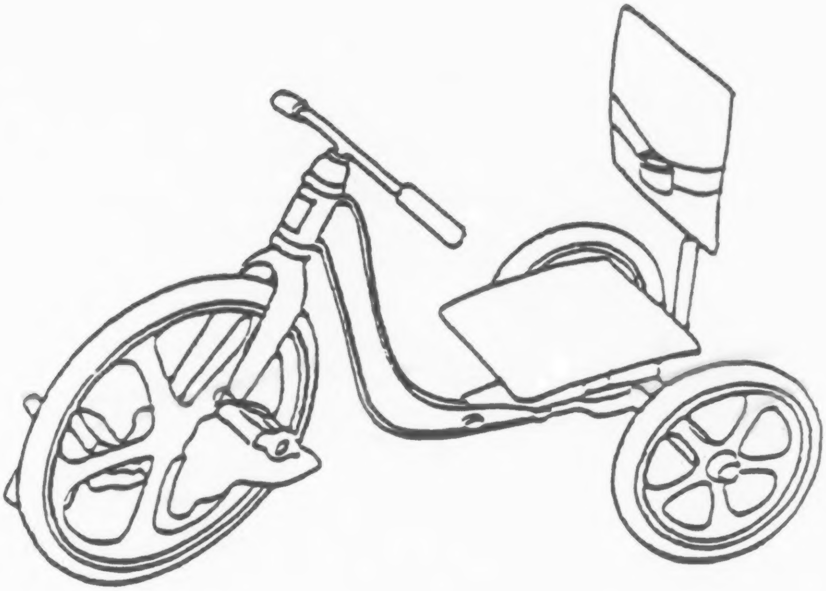


A. WHEELCHAIR TYPE - STROLLER

Width	20"
Height	37"
Length	33"
Weight	Unknown

This chair is unacceptable for transport because:

1. It is structurally unsound,
2. It easily collapses, and
3. It has an inadequate wheel-locking system.

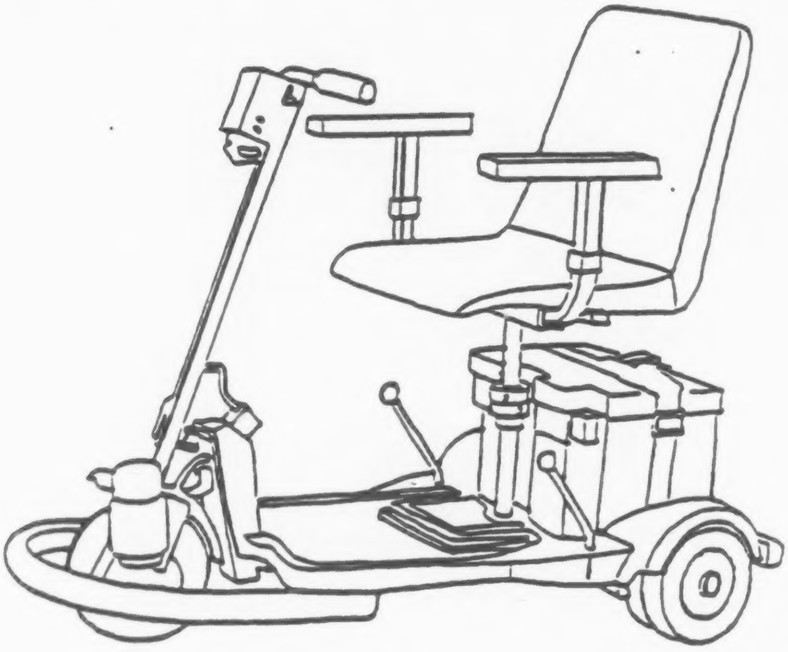


TRIKE

These lightweight units are not actual chairs.

Concerns:

1. Lack of stability (3-wheel configuration)
2. Low profile
3. Inability to secure
4. Barrier would be above seating level



A. WHEELCHAIR TYPE - ELECTRIC TRIKE OR PONY

Width	23-1/2"
Length	45"
Height	33"
Weight	56 lbs.
Battery	Two Twelve Volt
Battery Type	(Gel or Acid)

MANUFACTURER - Ivancare

B. TIE-DOWN PROCEDURES

1. Apply wheelchair brakes
2. Rear tie downs at waist level
3. Front tie downs on steering rod at main body joint

C. SAFETY FEATURES

1. Wheelchair seat belt
2. Wheelchair brakes

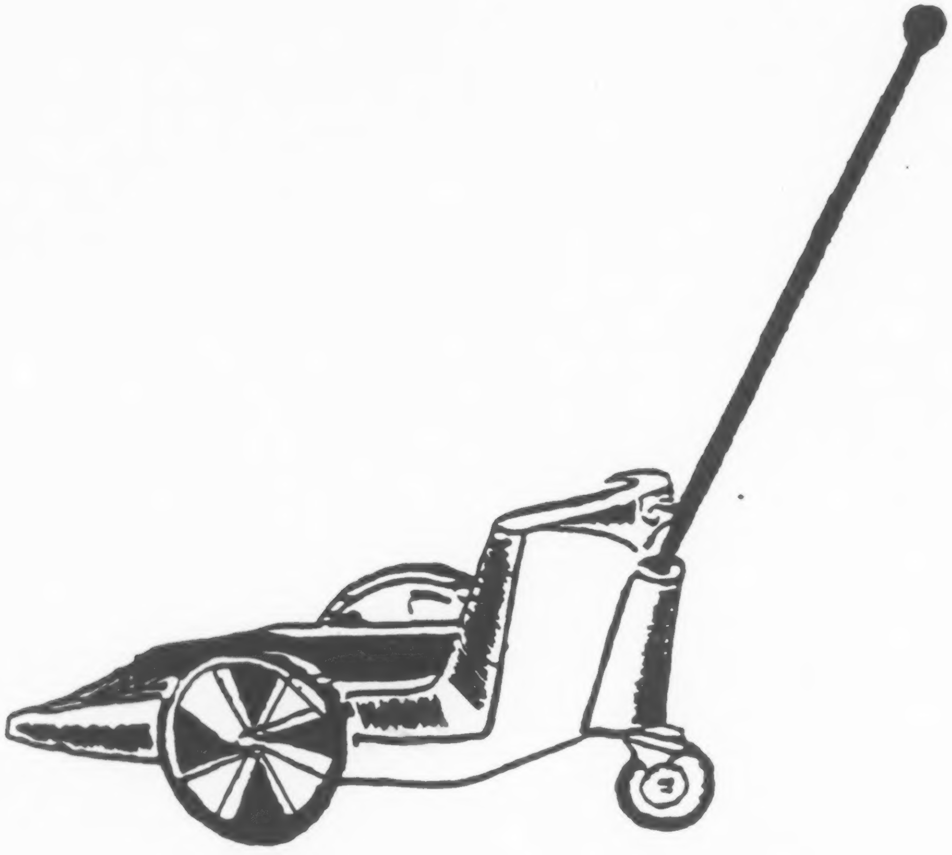
ELECTRIC TRIKE OR PONY WHEELCHAIR

The electric trike or "pony" has presented a number of problems in transport. First, the chair is too long to fit properly on the lift. The length of the ramp is 43.5"; however, the last 3" must be kept clear to allow a metal slant plate to fall when in an upright position. The slant plate allows the chair to be rolled into the bus from the ramp. If the chair is positioned with the front wheel at the front edge of the ramp, the slant plate will JUST CLEAR the rear wheels. In this position, however, the front security plate, protecting the chair from rolling off the ramp, cannot be raised into position. It is unacceptable to raise the ramp without using this safety feature. When lowering the ramp, the rear tipper wheels become stuck on the slant plate and could actually flip the wheelchair.

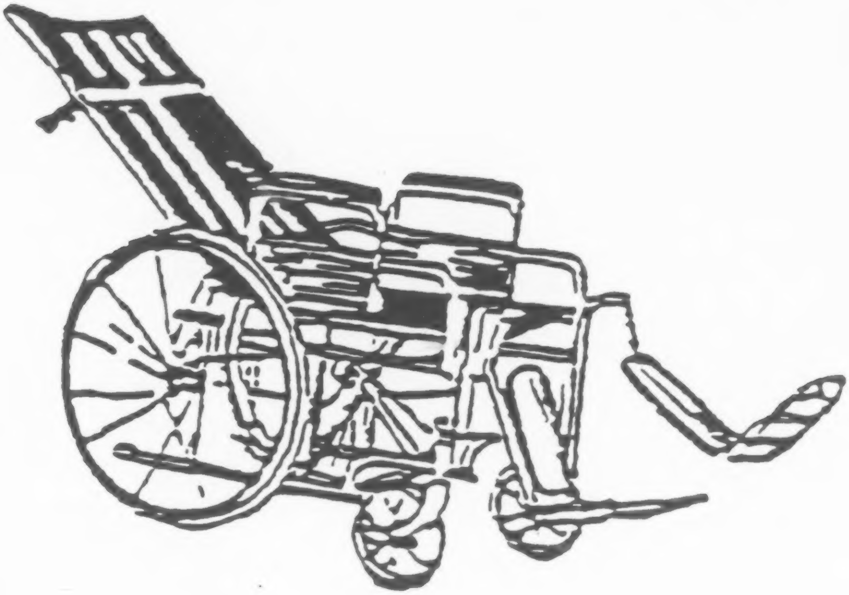
Once in the bus, the length of the chair causes it to extend into the aisle, creating a hazard for ambulatory students. It is impossible to adequately secure this type chair with tie-down straps. The front wheel can only be secured close to the floor which does not prevent swiveling. Since the occupant seat swivels on a thin metal post, attempts must be made to attach rear tie-downs to the chair arms, which does not prevent swiveling. Additionally, impact pressure could cause the chair to be torn from its post. A dangerous situation exists when a bus seat belt is placed around a student in an improperly anchored chair.

The question arises as to whether the student could be removed from the chair and placed in a standard bus seat and belted in (i.e., the chair would be tied down and transported empty). Safety considerations aside, space limitations prevent this option.

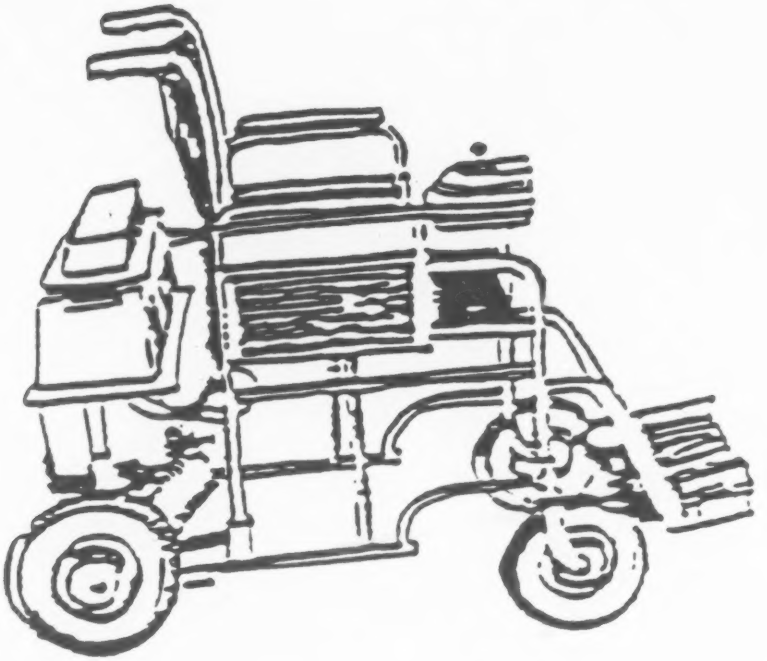
While we recognize the appeal of these chairs, with their greater maneuverability and comfort, we find them unacceptable for transport for the above reasons.



Mobility carts for children, not designed for transportation.



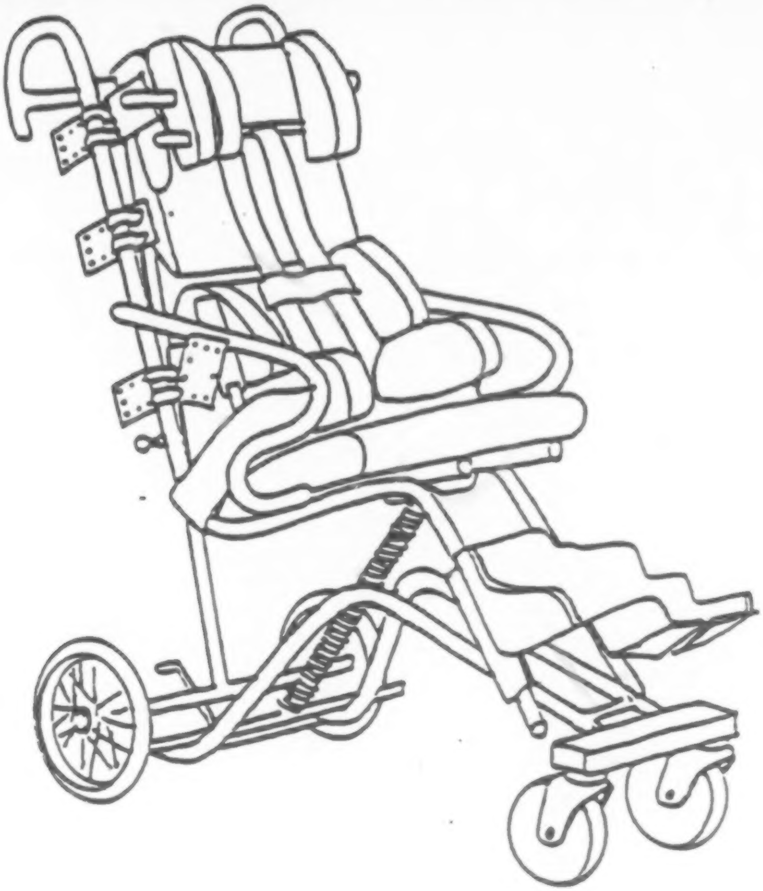
Wheelchairs that have reclining back rests.(unless the locking mechanism is strongly made).



Battery-powered wheelchairs in which the height of the batteries project above the seat level.

IV. EQUIPMENT CATALOG

C. WHEELCHAIRS NOT RECOMMENDED BUT ACCEPTABLE FOR TRANSPORTATION



A. WHEELCHAIR TYPE - ORTHOKINETIC (Variable Seat Position)

Width	19"
Height	40"
Length	30"

Concern: Wheelchairs that fold to be placed on a car seat. The wheelchair is not secured independently of its occupant and, in a forward impact, the unrestrained wheelchair would apply large loads tending to crush the body against the seat belt.

MANUFACTURER - Ivancare

B. TIE-DOWN PROCEDURES

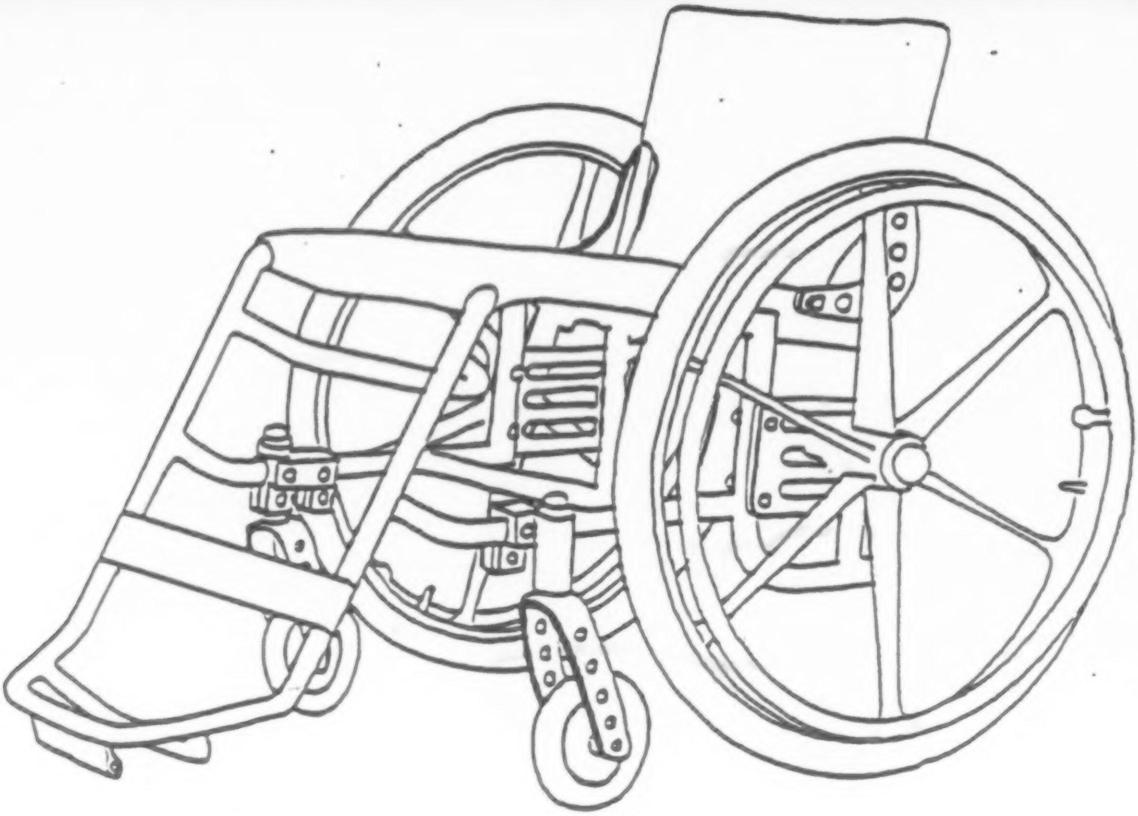
1. Apply axle lock*
2. Apply wheelchair brakes
3. Rear tie downs at waist level
4. Front tie downs at knee level
5. Secure school bus seat belt around armrest

C. SAFETY FEATURES

1. Foot brake
2. Wheelchair seat belt
3. Foot straps

*If bus is so equipped.

BEST COPY AVAILABLE



A. WHEELCHAIR TYPE - QUICKY SPORT

Width	23"
Length	39-1/2"
Height	37-1/2"
Weight	23 lbs.

MANUFACTURER - Ivancare

Concerns:

1. Low seat back rest.
2. Lack of side rail support or protection.

B. TIE-DOWN PROCEDURES

1. Secure wheel locks*
2. Apply wheelchair brakes
3. Rear tie downs at waist level
4. Front tie downs at knee level
5. Secure school bus seat belt around student's waist

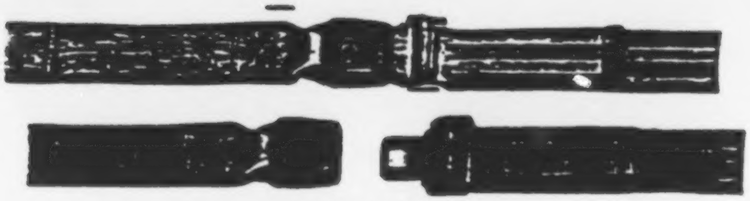
C. SAFETY FEATURES

1. Wheelchair seat belt
2. Wheelchair brakes
3. Anti-tippers (Optional)

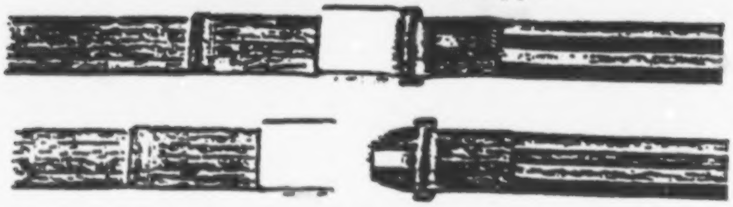
*If bus is so equipped.

IV. EQUIPMENT CATALOG

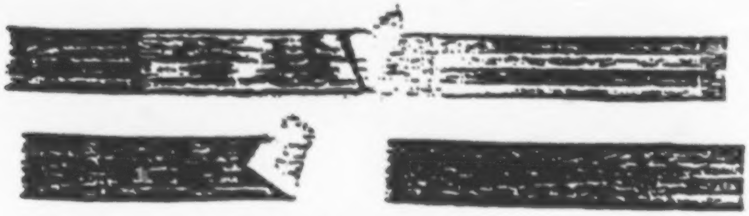
D. SEAT BELTS



Auto (Push-Button) Type



Aircraft Type



Velcro Type

TYPES OF WHEELCHAIR SEAT BELTS

Many buses are equipped with seat belts that attach to the floor or body of the bus, and pass around the chair and student's waist. When armrests are provided, belts pass through them. It is important that the belts be attached to the floor and chair to stabilize the wheelchair student in the event of impact.

As seen above, wheelchairs must be equipped with a chair-mounted seat belt secured with a metal or metal/plastic buckle. Many wheelchairs come equipped with velcro lap belts and/or harnesses, which are unsatisfactory for the following reasons: 1) during transfer from ground to bus, the student must be held firmly in the chair to prevent falling, 2) velcro loses holding strength over time when contaminated with dirt, lint, thread, etc. Slight pressure can cause it to come undone.

In addition to insuring student safety during transfer, a buckle-type seat belt serves as a back-up system to the bus-mounted belt in the event of impact.

Student transportation does not provide shoulder belts or specialized upper-body stabilizing straps for wheelchairs. Such equipment requiring permanent bus-body mounting is unacceptable since during mechanical breakdown situations, students are often transferred to different buses and permanent equipment cannot be transferred. Therefore, desired upper-body supports must be parent provided and securely mounted to the chair itself.

IV. EQUIPMENT CATALOG

E. SAMPLE HARNESSES AND VESTS

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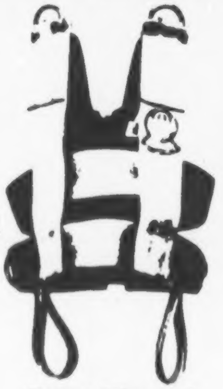
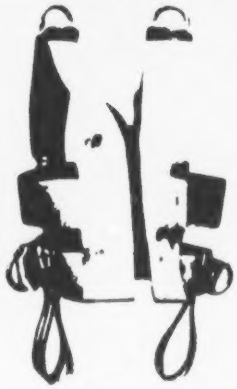
TYPES OF VEST CLOSURES

All vests exceed the requirements of Federal Impact Test standards when used with appropriate E-Z-ON mounting strap.

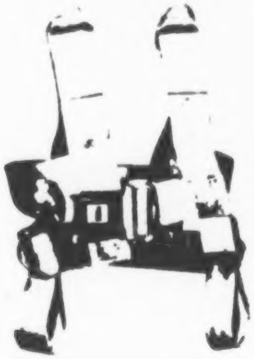
All vests will be shipped with this back zipper closure unless another type of closure is specified. This vest is not adjustable and is usually preferred for persons with behavioral and emotional disabilities who should be restrained from opening vest closure.



Front View of Back Zipper Closure



Back View of Back Zipper Closure

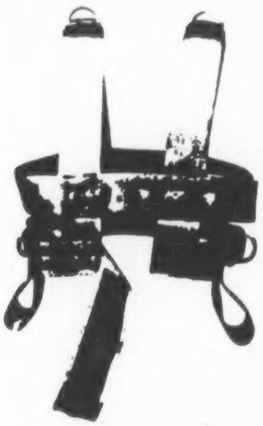


Front Closure with Push Button

- Adjustable
- Easy, fast snap-on release

Front Closure with Buckle Rings

- Adjustable
- "Thread" straps through buckle rings to close



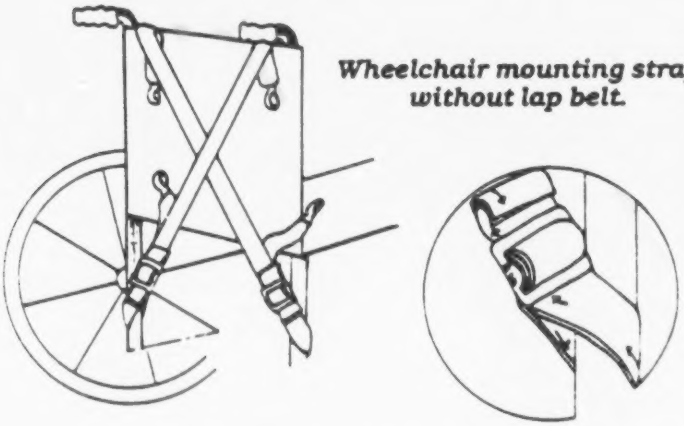
Back Closure with Velcro

- Adjustable

Note: The same vest may be used in bus, van, wheelchair and family vehicle when used with appropriate mounting strap.

USING E-Z-ON VEST WITH WHEELCHAIRS

All E-Z-ON VEST designs are applicable to wheelchair usage. Any vest used in a vehicle can be transferred to a wheelchair with E-Z-ON's wheelchair mounting strap. (The wheelchair mounting strap is designed to be used with or without lap belt). *Installation instructions are included with every wheelchair mounting strap.*



Wheelchair mounting strap without lap belt.

The E-Z-ON VEST and wheelchair mounting strap are to be used only as a safety restraint system. The wheelchair mounting strap is not designed to be used as a wheelchair tie-down.

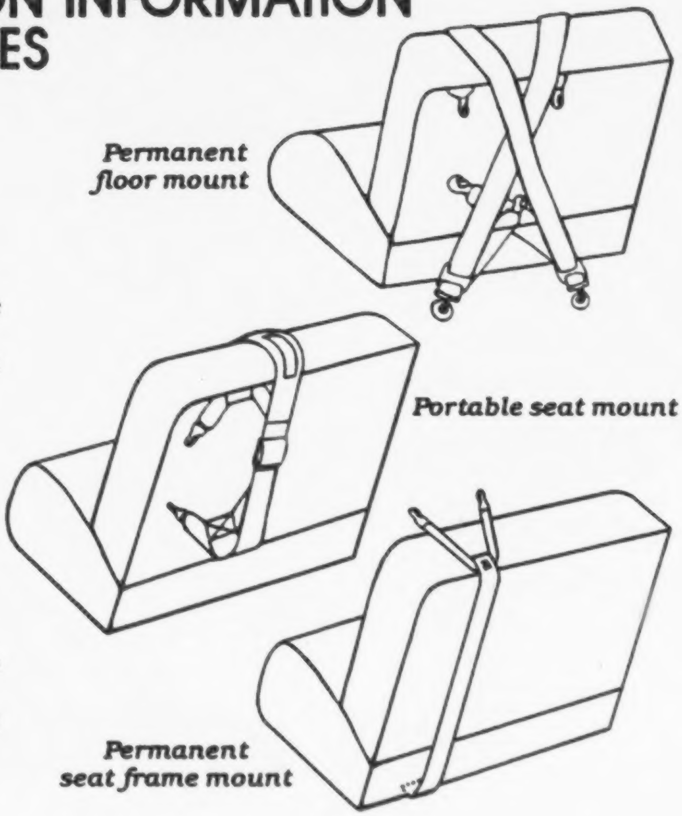
INSTALLATION INFORMATION FOR VEHICLES

For Buses:

- Permanent floor mount
- Portable seat mount with E-Z-ON's Cam Wrap
- Permanent seat frame mount with tether strap (To be used with existing seat belt)

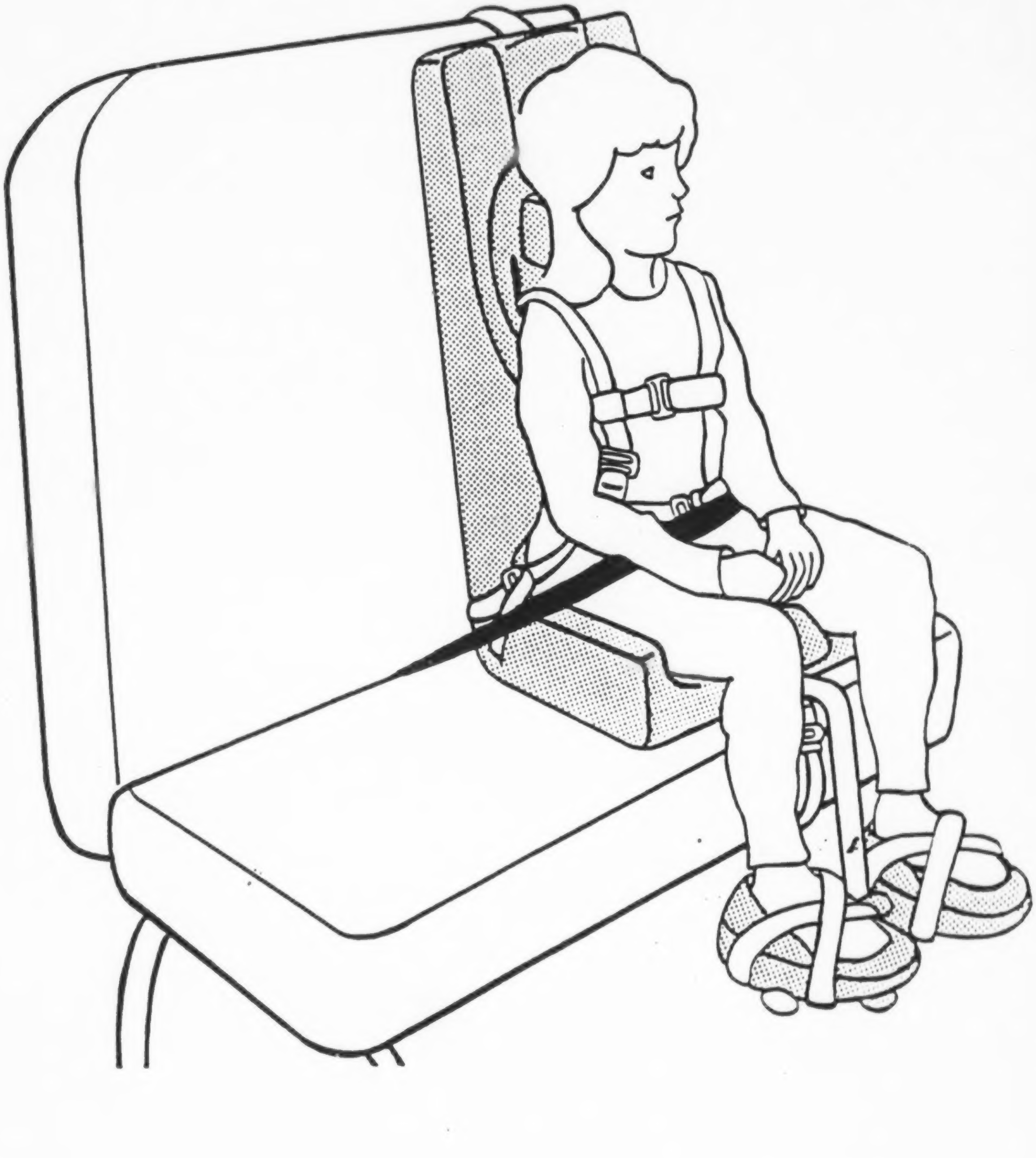
For Vans:

- Permanent floor mount
- Portable seat mount with "Cam Wrap" (if seat backs are stationary)
- Permanent seat frame mount with tether strap (To be used with existing seat belt)


Permanent floor mount
Portable seat mount
Permanent seat frame mount

Tumble Forms

Carrie® Bus Seat



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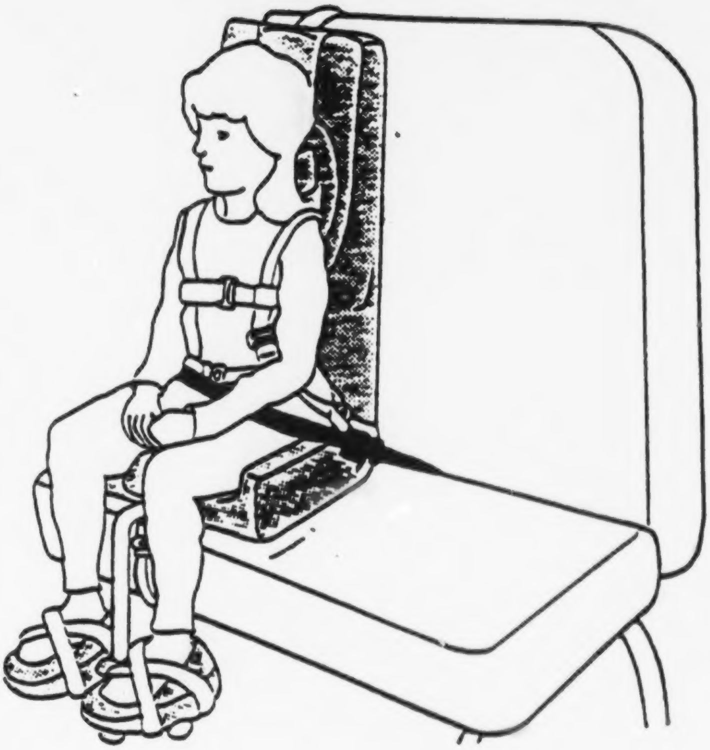
SAFE PUPIL TRANSPORTATION

Carrie Bus Seat is manufactured from safe, shock absorbing foam to help reduce injuries. Structurally the Carrie Bus Seat is similar to the Tumble Forms Carrie Seat, which meets and exceeds F.M.V.S.S.213 for safe passenger car and van transportation.

Pupil transportation safety requires that the Carrie Bus Seat be installed according to these instructions.



THE LAW

Carrie Bus Seat is a safety seat designed to be used only on a school bus equipped with 1978 or newer bus seats manufactured in accordance with Federal Motor Vehicle Safety Standard 222. "The standard relies on compartmentalization between well-padded and well constructed seats to provide occupant protection on school buses."* The Carrie Bus Seat has been designed with both the spirit and intent of Federal Motor Vehicle Safety Standard 222 in mind. Carrie Bus Seat must only be used in a school bus.

To use the Carrie Bus Seat in a passenger car or van would violate Federal Motor Vehicle Safety Standard 213. Tumble Forms Inc. manufactures the Carrie Seat in four sizes to meet V.M.V.S.S.213.

*Quote from Part 571; S222-Prel

EMERGENCY EVACUATION

Because of the Carrie Bus Seat's light weight and ease of removal, emergency evacuation can be accomplished by either the pick up and carry method or the "blanket drag" method for heavier children. The child remains in a safe, stable position because you are able to quickly remove the Carrie Bus Seat without unstrapping the child.

CONVENIENCE

Driver or attendant conveniently place the Carrie Bus Seat on any bus seat manufactured to Federal Motor Vehicle Safety Standard 222 Construction Standards. Simply "buckle up" the "Tether-wrap belt" and lap belt. Click! (see pages 37 and 38)

POSITIONING AND COMFORT

Carrie Bus Seat positions the special child in comfort and with therapeutic posture control.

Anti-thrust configuration of the seat stabilizes the pelvis.

Molded seat shape follows the child's contours, providing lateral trunk support and shoulder protraction.

Vertical guides adjust to the height of the shoulder automatically.

OPTIONS

Height adjustable headrest with extended lateral supports keep the head in mid-line and neutral.

Footrest has a number of adjustments to maintain hip, knee and ankle flexion.

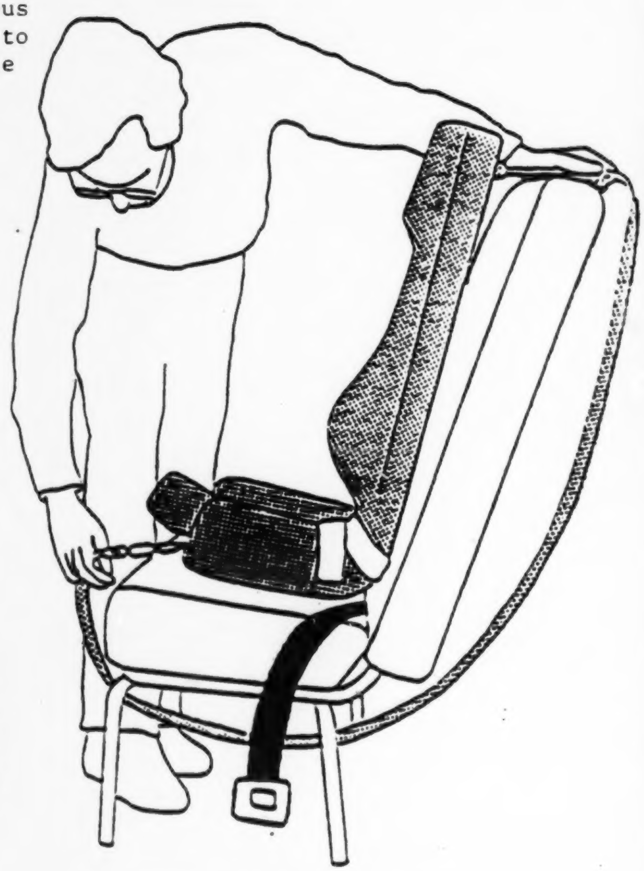
Tumble Forms has made the Carrie Bus Seat available in three "Growth" sizes. Simply by choosing the correct size, you can individually fit each child for therapeutic positioning.

	Pre-School PC4646B	Elementary PC4641B	Junior PC4747B
Standing Height	30-38 in.	38-48 in.	48-58 in.
Weight	20-40 lbs.	30-60 lbs.	50-100 lbs.
Sitting Hip Width	6-8 in.	8-10 in.	9-12 in.
Thigh Depth	8-11 in.	10-13 in.	12-15 in.

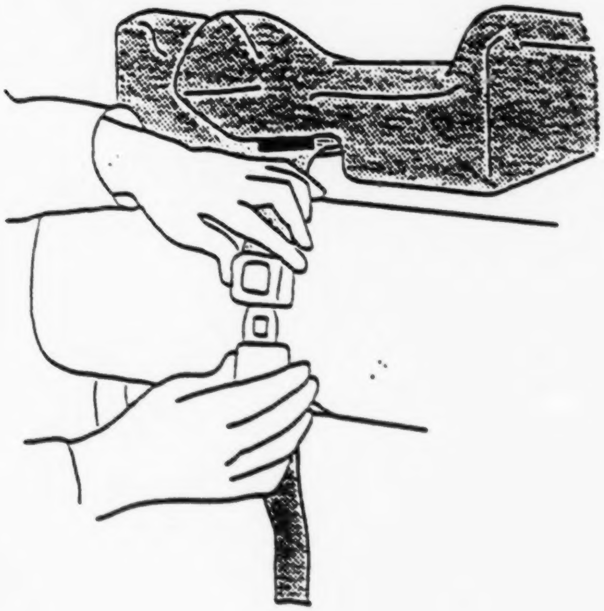
CARRIE BUS SEAT INSTALLATION

Follow these seven steps to properly use the Carrie Bus Seat only in a school bus which has standard seats manufactured to specifications in Federal Motor Vehicle Regulation 222.

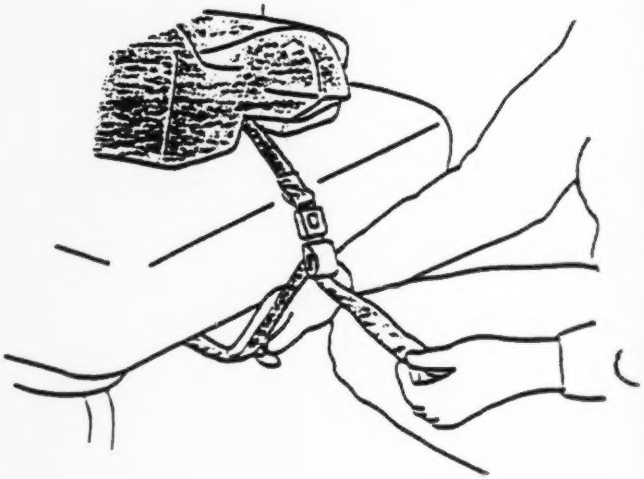
1. Wrap the "Tether-wrap belt" around the bus seat back and underneath the seat.



2. Insert the tongue into the buckle until it clicks into place.

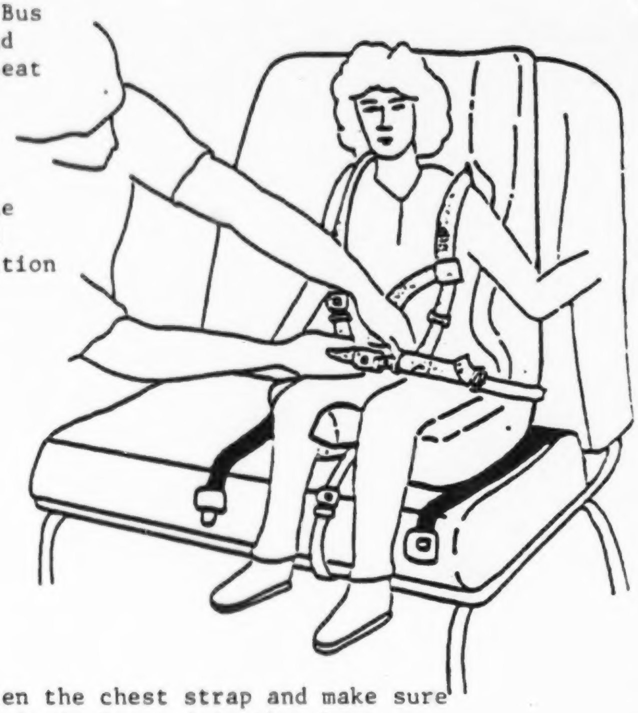


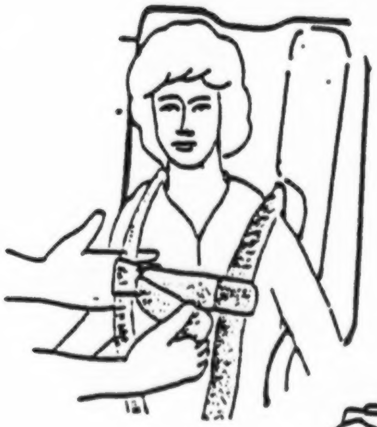
3. Then pull the hanging tail until the slack is taken up.



4. Position the child in the Carrie Bus Seat making sure that the hips and buttocks are back snugly in the seat (this is important to successful therapeutic positioning).

5. Fasten the hip strap buckle of the safety positioning harness around the child as show in the illustration to the right.



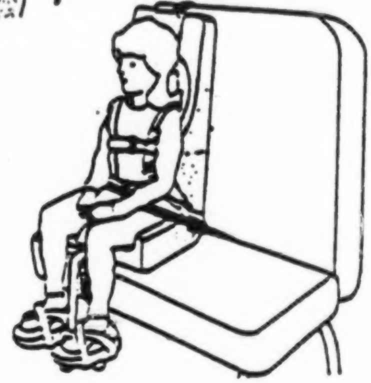


6. Fasten the chest strap and make sure that it is located in the chest area, but comfortably below the child's neckline.

NOTE

If you are transporting a pupil with special needs in a standard van or station wagon, to comply with Federal Motor Vehicle Safety Standard 213, you must use a car seat which is manufactured to Federal Motor Vehicle Safety Standard 213 specifications. For this purpose, Tumble Forms Inc. manufactures the Carrie Seat, which meets and exceeds the requirements of F.M.V.S.S.213. For informatio on the Carrie Seat, contact:

Tumble Forms, Inc.
60 Page Rd., Clifton, N.J. 07012
Phone: 800-631-7277

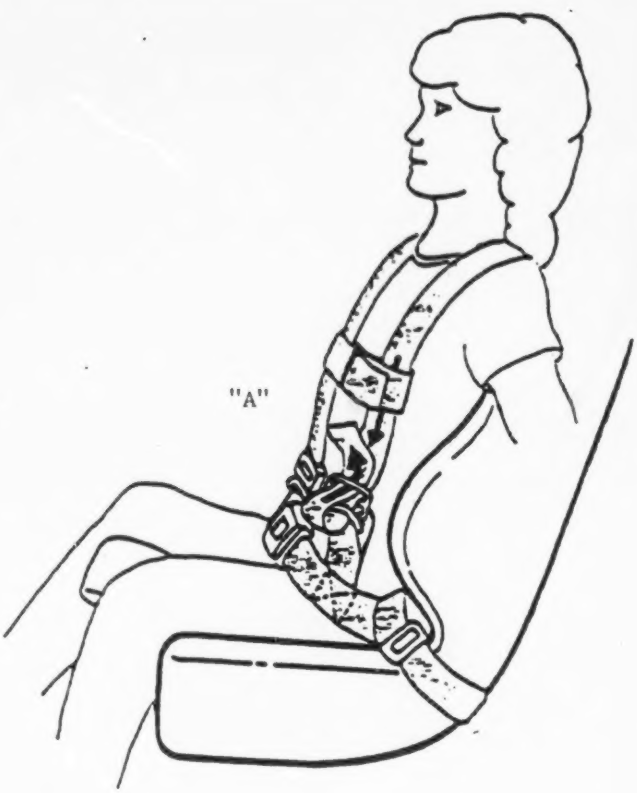


7. The standard school bus lap belt must be fastened over the hips and seat. This will also prevent the hips from going into extension.

HIP STRAP ADJUSTMENT

To custom fit the positioning safety harness to the child:

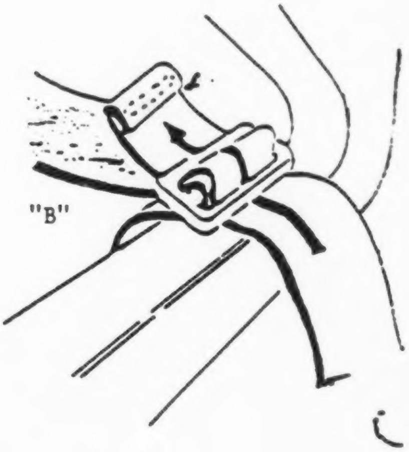
1. Loosen the shoulder straps at the adjustable slides above the buckle (refer to drawing "A").
2. Buckle the hip straps together and tighten each side snugly by threading it through its adjustment slide (refer to drawing "B").
3. Tighten each side equally so that the buckle stays centered on the child. Make sure the hip straps are located down across the hips of the child as shown, and not up in the soft stomach area.



"A"

SHOULDER STRAP ADJUSTMENT

4. After the hip strap is adjusted snugly, tighten the shoulder straps by feeding the excess webbing through the adjustment slides above the buckle. Follow the arrows in the drawing "A". Once the entire harness has been adjusted snugly, the child may be easily removed from the seat by unbuckling the shoulder strap buckle, the chest strap and the hip strap buckle. Always make sure that the buckles of the positioning safety harness are snapped together securely before traveling.

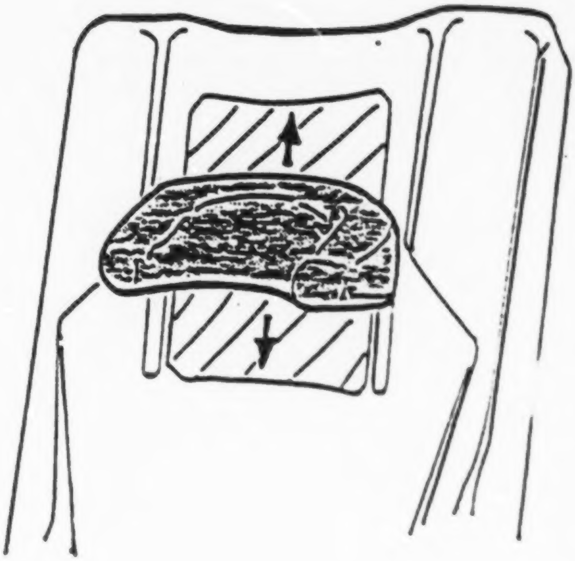


"B"

OPTIONS

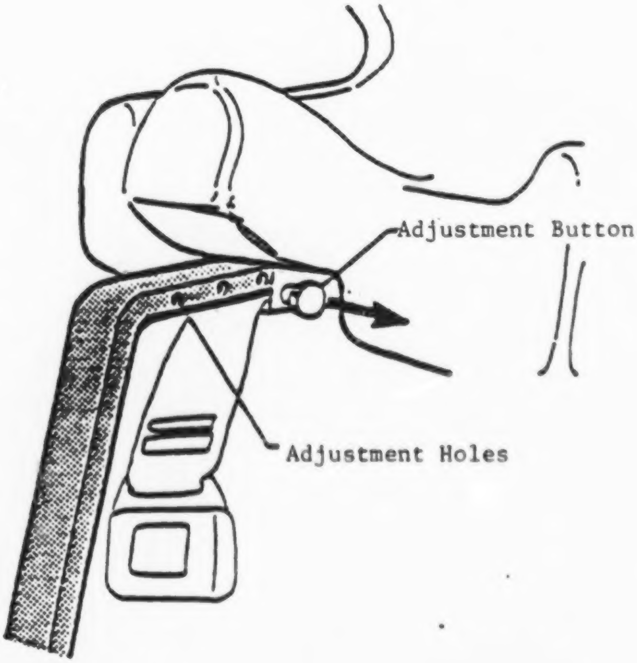
ADJUSTABLE HEAD SUPPORT

The head support can be adjusted up or down on the Velcro pad located at the top of the seat. The purpose of the head support is to hold the head and neck in midline without putting pressure on the occipital region.



ADJUSTABLE FOOTREST

The Carrie Bus Seat Footrest is essential for proper positioning. The up and down adjustment is used to help control hip flexion and extention.



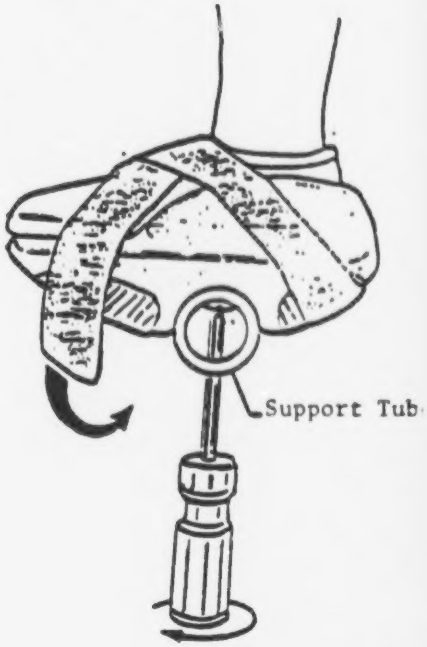
The adjustable footrest consists of three adjustable components:

1. The footrest bar.
2. The support tube.
3. The individual footrest shoes.

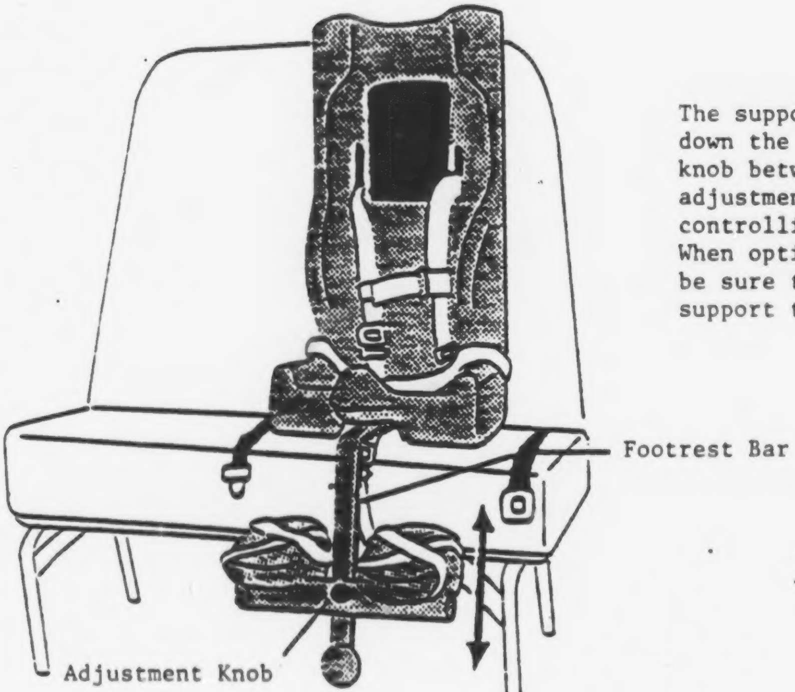
The footrest should be inserted into the slot of the bracket located under the abductor. Insert the Footrest bar until the spring loaded adjustment button "clicks" into place in the first adjustment hole. Pull the adjustment button out to move the footrest to one of the other adjustment positions for shorter thigh lengths.

The footrest shoes can be tilted individually for ankle dorsiflexion or plantarflexion. This is accomplished by loosening the screw in the hole in the footrest tube directly under each shoe. Be sure to tighten the screw securely after repositioning the footrest.

To secure the child's foot to the footrest, cross the webbing straps over the child's foot and fasten to the Velcro pad under the front of the footrest shoe.



The support tube may be adjusted up or down the footrest bar by loosening the knob between the footrest shoes. This adjustment may be used to assist in controlling hip flexion or extension. When optimum position has been achieved, be sure to tighten the knob so that the support tube maintains its position.

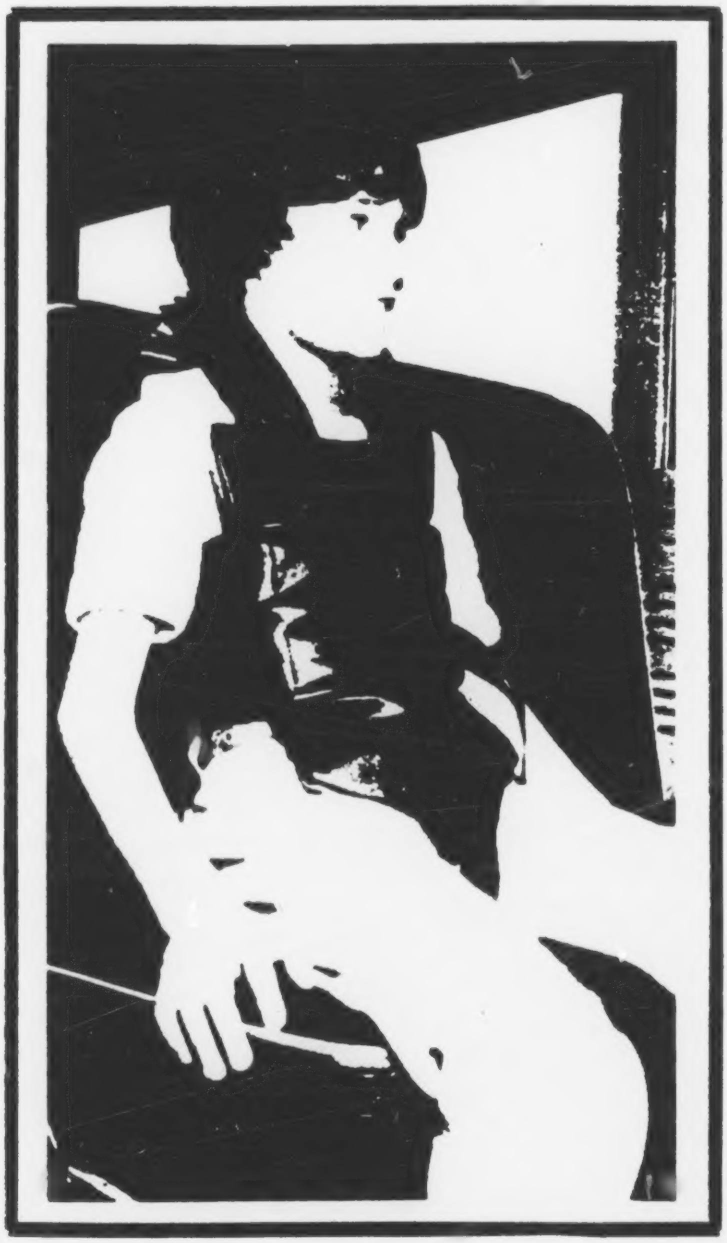


If your Carrie Bus Seat is ever involved in an accident, it should not be used again. The integrity of the structure and restraint webbing could be questionable.

BEST COPY AVAILABLE

THE WHITWORTH TRUNK SUPPORT VEST

With the increasing specialized needs required to appropriately serve our physically handicapped population within our schools and the community, Therapeutic Creations, Inc. has designed and developed the "Whitworth Trunk Support Vest". This versatile device provides safety, comfort and the opportunity to more actively participate in one's environment.



- Adjustable, quick-release securing straps allow easy transition from motor vehicle to wheelchair or standard household/classroom chairs
- Cushioned shoulder pads aid in head control and keep upper trunk erect
- Extra wide waist band assists in keeping trunk aligned
- Contoured padded crotch section assists in keeping hips abducted and buttocks towards the rear of the seat
- Velcro fasteners throughout for custom fit and quick release

Tested by classroom teachers and bus drivers of special schools, the Whitworth Trunk Support Vest provides....

- Increased classroom participation
- Increased ease and independence in feeding and table activities
- Comfort and security while being transported in a motor vehicle
- Quick release in an emergency situation

Constructed of durable and practical fabric, reinforced at key stress points

THERAPEUTIC CREATIONS, INC.

1365 N. Broadway, Suite #261
Walnut Creek, CA 94596
(415) 930-3460

Specializing in Unique Aids
For The Handicapped

WHITWORTH TRUNK SUPPORT VESTS are available in:

Style A: Extra support, easy-to-wipe-clean nauganyde

Style B: Supportive, washable nylon-cotton weave

SIZES: (for children)

Small	for children under 30" tall
Medium	for children 30" to 45" tall
Large	for children 46" to 60" tall

Distributed by:

IV. EQUIPMENT CATALOG

F. BATTERIES

G. OPTIONAL SAFETY FEATURES

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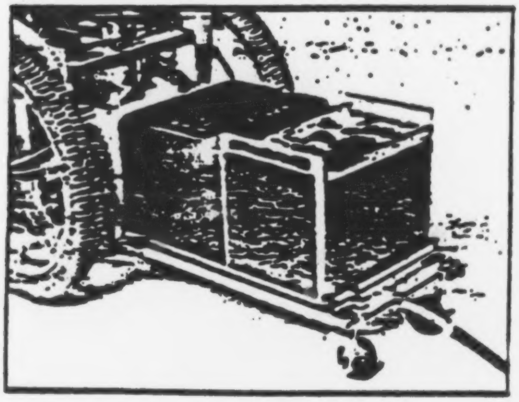


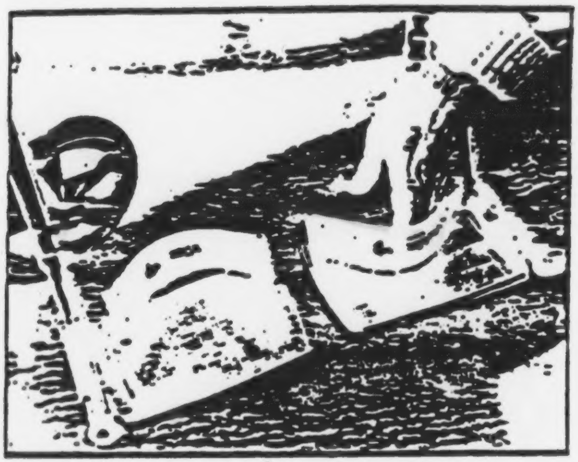
F. WHEELCHAIR BATTERY (ACID OR GEL)

Electric powered wheelchairs may have either an acid or gel type battery.

During transport, there is an inherent danger of acid spillage upon impact. Therefore, ACID BATTERIES ON ELECTRIC WHEELCHAIRS are not permitted on school buses as identified in the Maryland State Department COMAR regulation 13A.06.07.03.G. It states:

1. Liquid-acid batteries may not be transported inside any school vehicle.
2. Batteries shall be encased in an impact-resistant container.
3. The battery container shall be securely fastened to the wheelchair.
4. The battery container lid shall be securely fastened to the battery container.
5. All electrical terminals not inside the battery container shall be protected from accidental contact.

G. OPTIONAL SAFETY FEATURES



FOOT STRAPS

Drivers: Footpads are detachable! DO NOT attach to tie-down. Attach to solid frame structure.

ANTI-TIPPERS

On most chairs, these can be raised upright.

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V. THE USE OF THE CARGO-STRAP SAFETY TIE-DOWN DEVICES

INSTRUCTIONS, DIAGRAMS FOR SECURING WHEELCHAIRS INSIDE THE BUS

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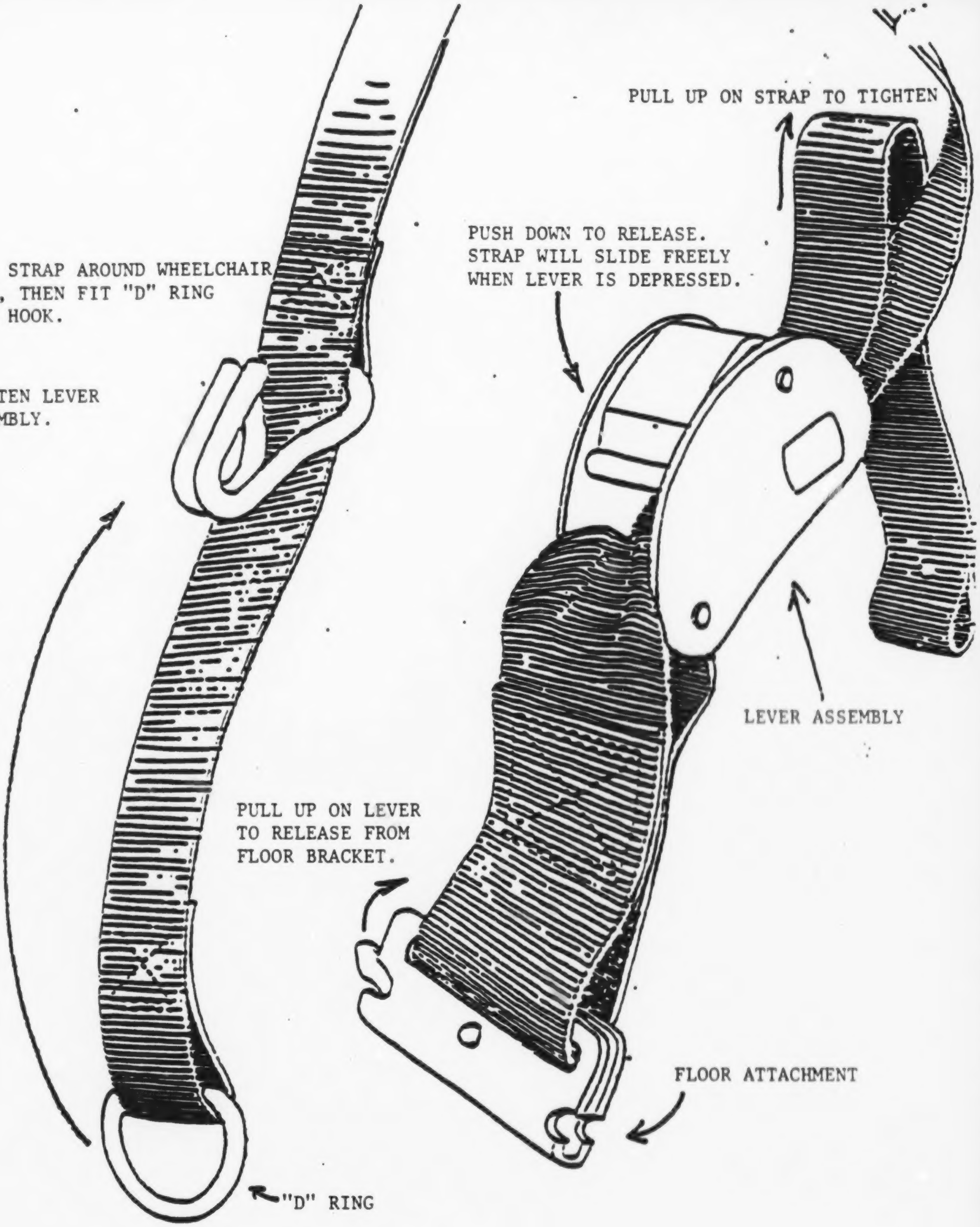
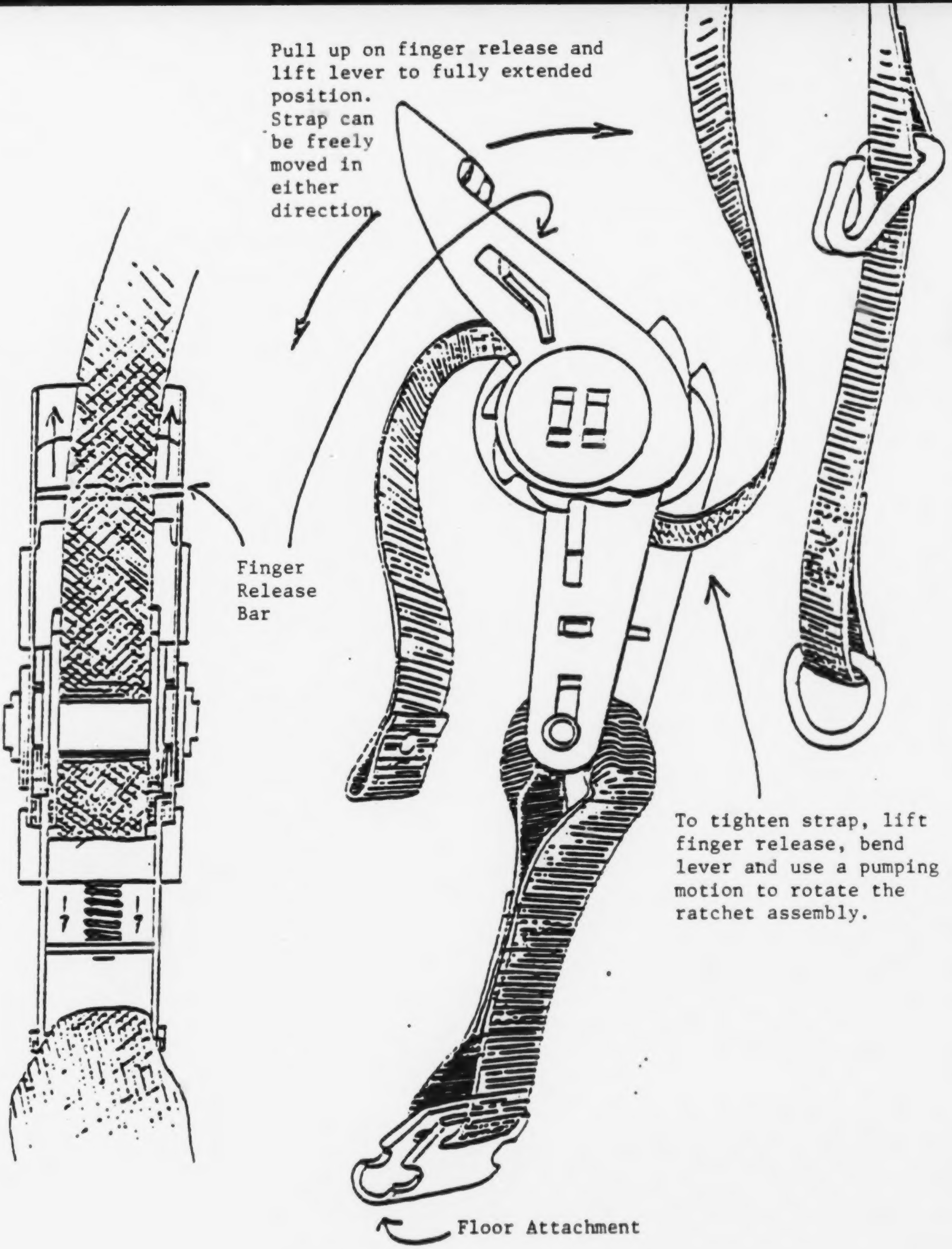


WRAP STRAP AROUND WHEELCHAIR PART, THEN FIT "D" RING OVER HOOK.
TIGHTEN LEVER ASSEMBLY.
"D" RING
PULL UP ON STRAP TO TIGHTEN
PUSH DOWN TO RELEASE. STRAP WILL SLIDE FREELY WHEN LEVER IS DEPRESSED.
LEVER ASSEMBLY
PULL UP ON LEVER TO RELEASE FROM FLOOR BRACKET.
FLOOR ATTACHMENT



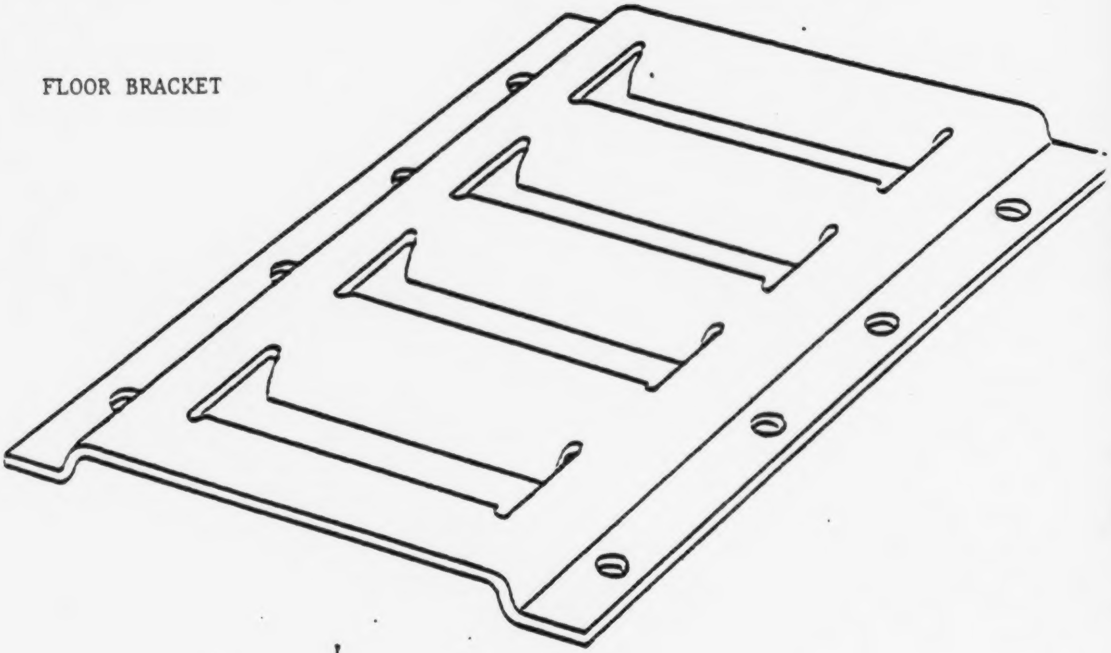
Pull up on finger release and lift lever to fully extended position. Strap can be freely moved in either direction.

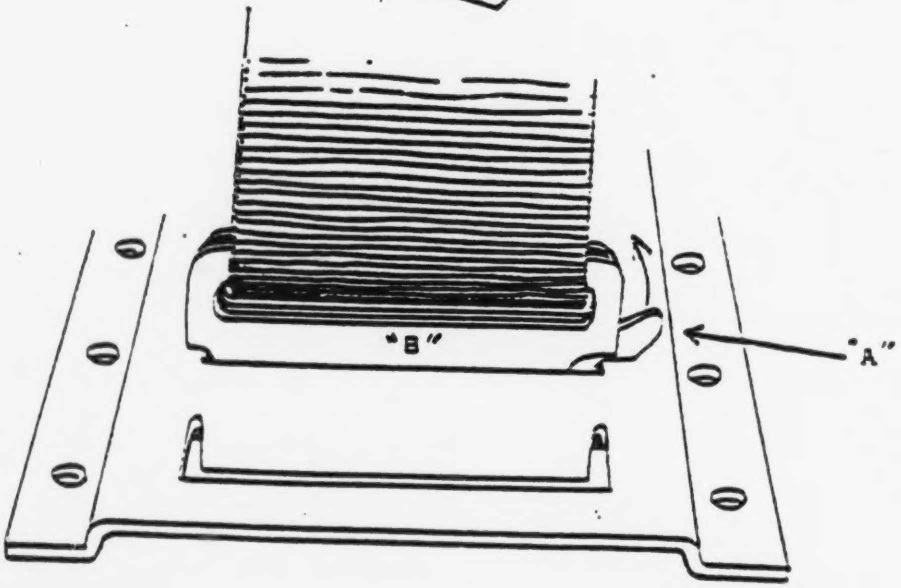
Finger Release Bar

To tighten strap, lift finger release, bend lever and use a pumping motion to rotate the ratchet assembly.

Floor Attachment

FLOOR BRACKET





STRAP-TO-FLOOR ATTACHMENT: Pull up on lever. "A" and lift attachment "B", then slide forward and out.

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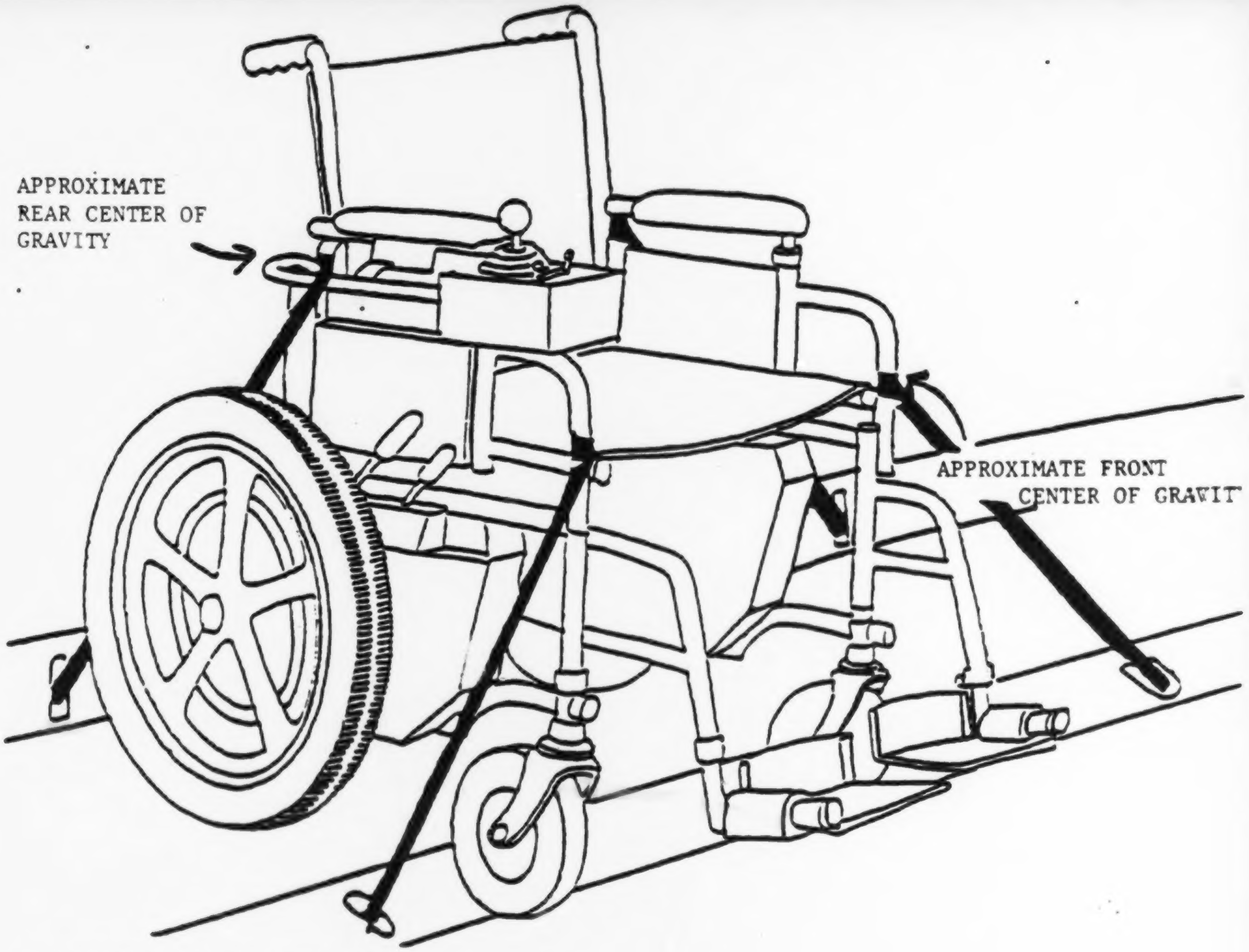

APPROXIMATE
REAR CENTER OF
GRAVITY
APPROXIMATE FRONT
CENTER OF GRAVIT

SUGGESTED AREA OF ATTACHMENT

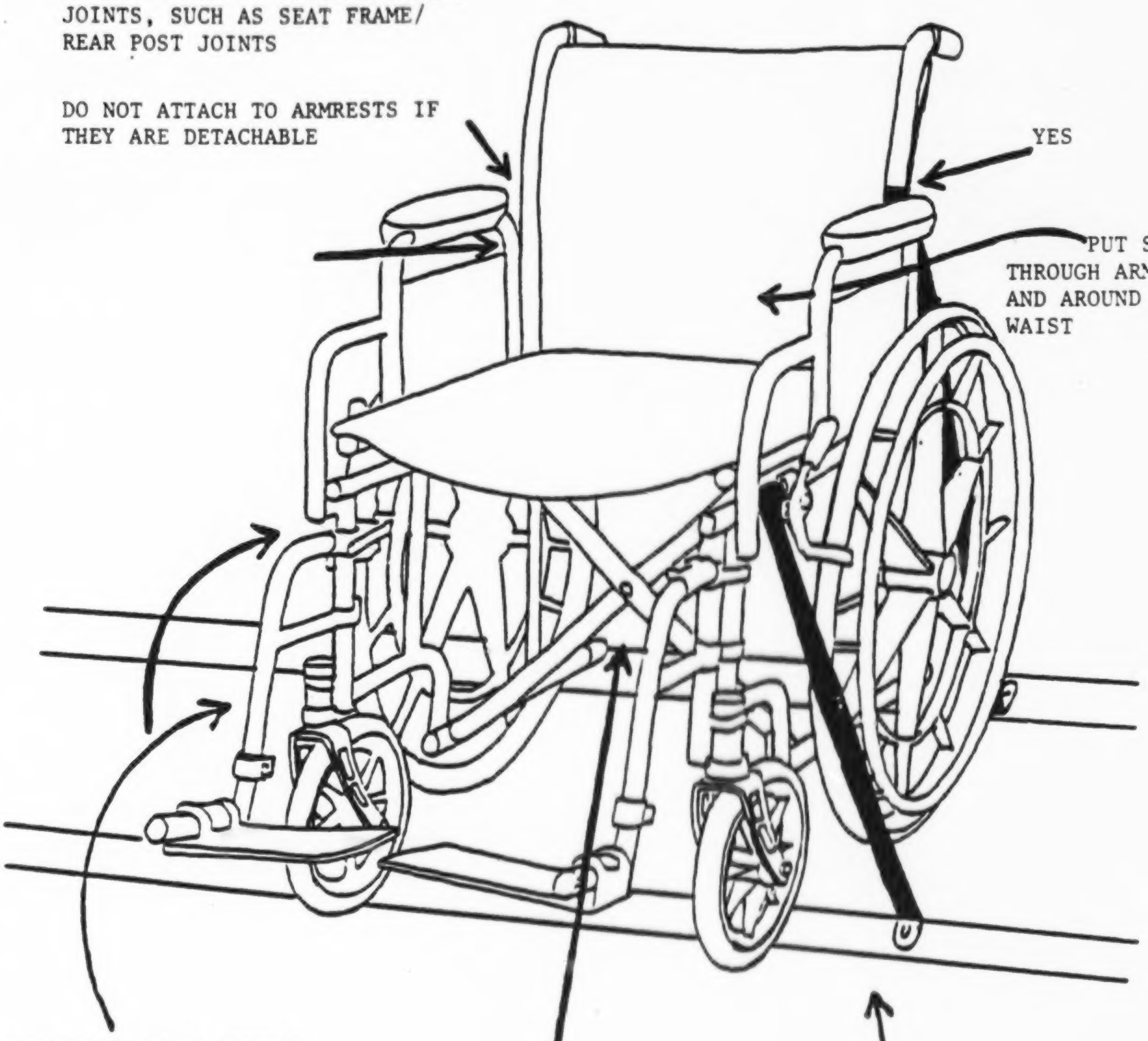
1. If existing wall brackets are available, position wheels between brackets and tighten. Set chair brakes.

2. Position floor attachments in floor brackets at least 6" away from wheels.

3. Attach "D" ring clamps at center of gravity for style of chair used. Rule of thumb: The center of gravity at the rear of the chair will be at or near level of knees.

4. The greater angle of the strap from the chair to floor, the more stable. It will not always be possible to achieve this. Test chair for sideways movement, and adjust accordingly.

ALWAYS USE FOUR POINTS OF ATTACHMENT



ALWAYS ATTACH TO WELDED TUBING JOINTS, SUCH AS SEAT FRAME/ REAR POST JOINTS

DO NOT ATTACH TO ARMRESTS IF THEY ARE DETACHABLE

YES

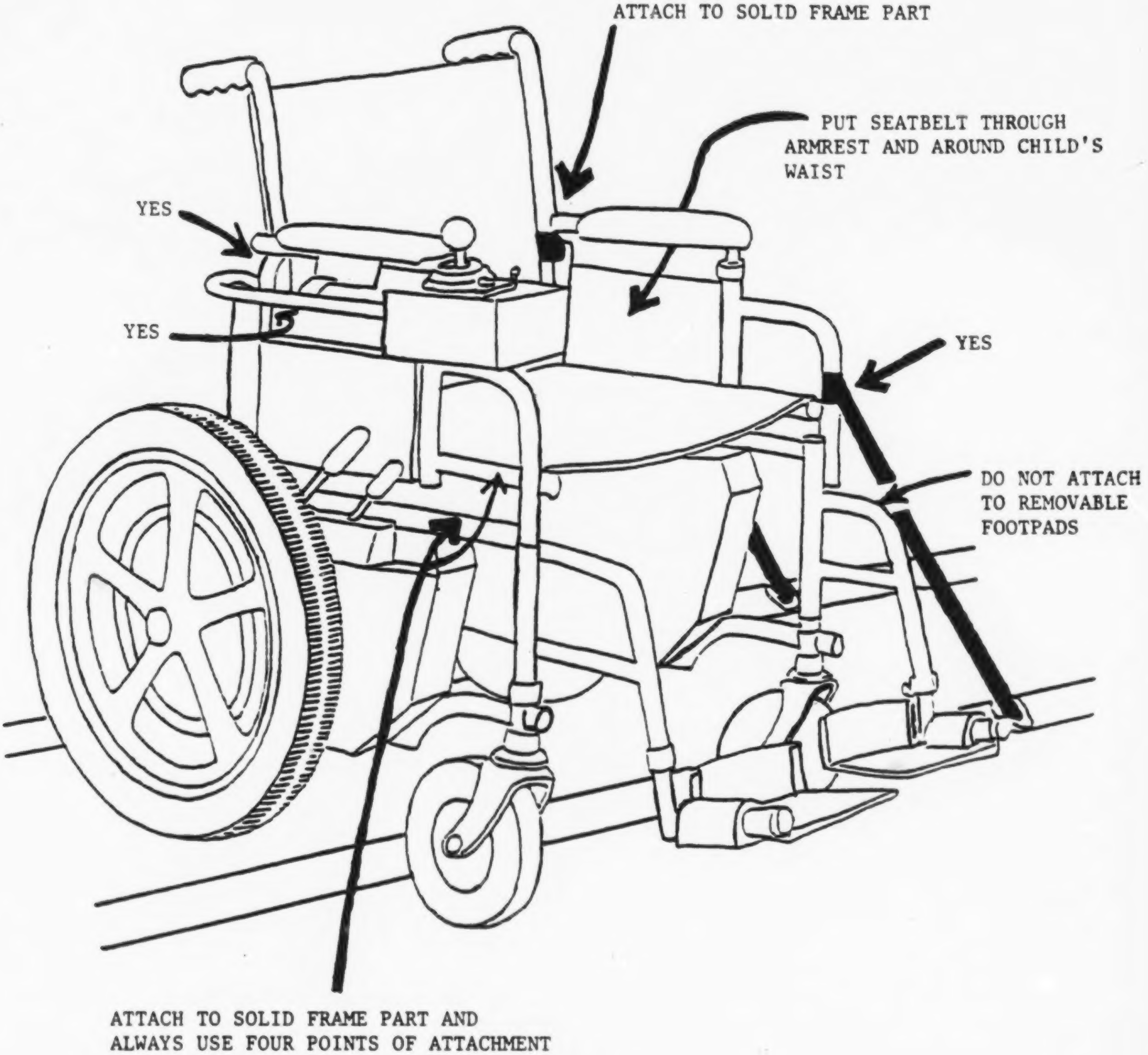
PUT SEATBELT THROUGH ARMRESTS AND AROUND CHILD'S WAIST

DO NOT ATTACH TO WHEELS OR TO REMOVABLE FOOTPADS

NEVER ATTACH TO FOLDING CROSSBARS

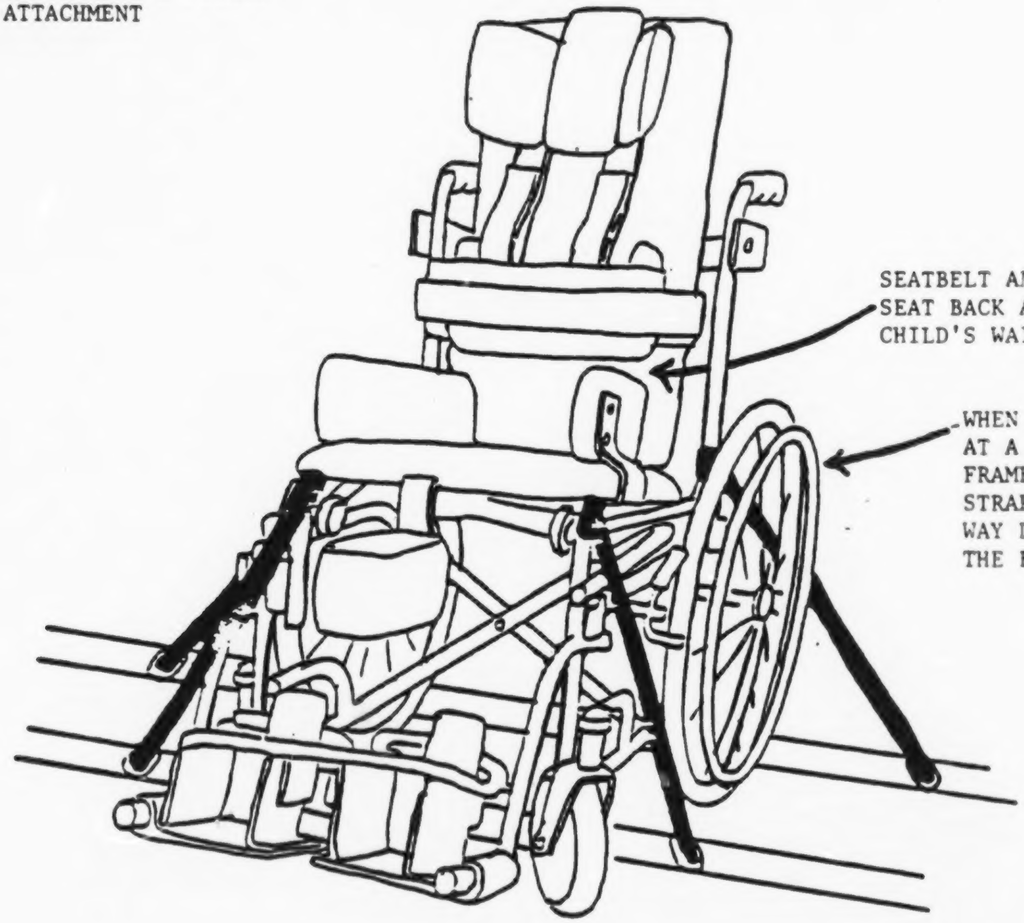
ATTACH TO SOLID FRAME PART

"STANDARD" WHEELCHAIR


ATTACH TO SOLID FRAME PART
PUT SEATBELT THROUGH ARMREST AND AROUND CHILD'S WAIST
YES
YES
YES
DO NOT ATTACH TO REMOVABLE FOOTPADS
ATTACH TO SOLID FRAME PART AND ALWAYS USE FOUR POINTS OF ATTACHMENT

STANDARD ELECTRIC WHEELCHAIR

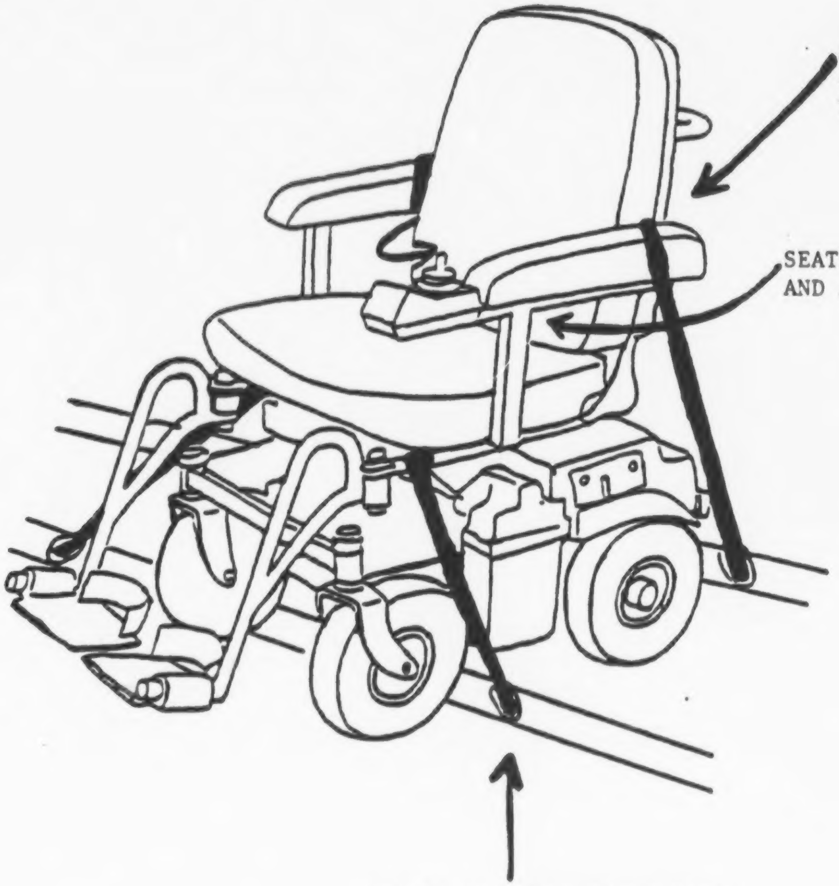
ALWAYS USE FOUR POINTS
OF ATTACHMENT



SEATBELT AROUND
SEAT BACK AND
CHILD'S WAIST

WHEN ATTACHING
AT A BEND IN
FRAME, SLIDE
STRAP ALL THE
WAY DOWN TO
THE BEND

NARROW STANDARD WHEELCHAIR WITH ORTHOPEDIC FITTINGS



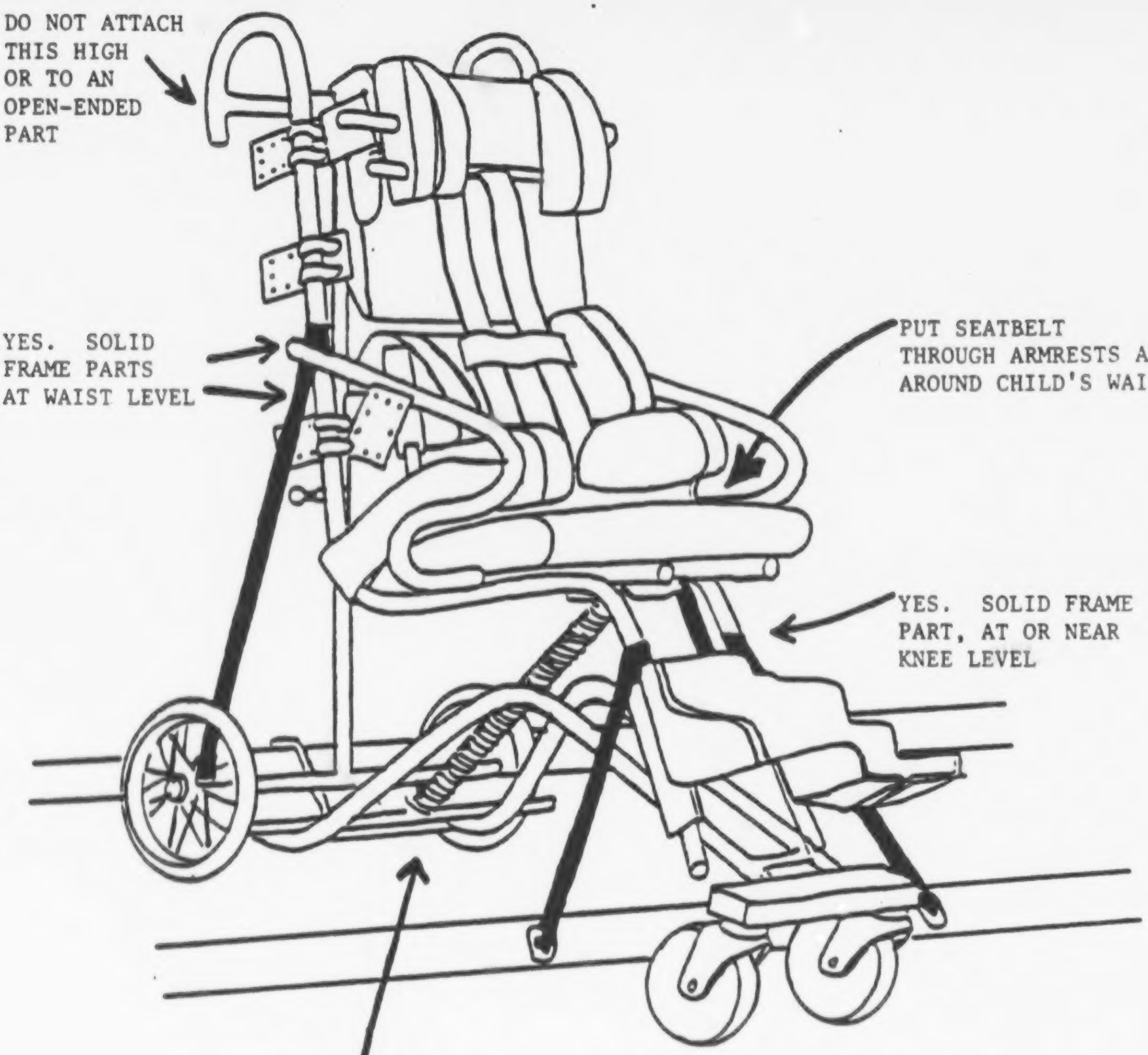
ATTACH AROUND ARM
CUSHIONS, OR BETWEEN
THEM AND THE SEAT BACK

SEATBELT THROUGH ARMRESTS
AND AROUND CHILD'S WAIST

ATTACH TO SOLID FRAME PART

ALWAYS USE FOUR POINTS OF ATTACHMENT

STANDARD ELECTRIC WHEELCHAIR WITH FOUR SMALL WHEELS



DO NOT ATTACH THIS HIGH OR TO AN OPEN-ENDED PART

YES. SOLID FRAME PARTS AT WAIST LEVEL

PUT SEATBELT THROUGH ARMRESTS AND AROUND CHILD'S WAIST

YES. SOLID FRAME PART, AT OR NEAR KNEE LEVEL

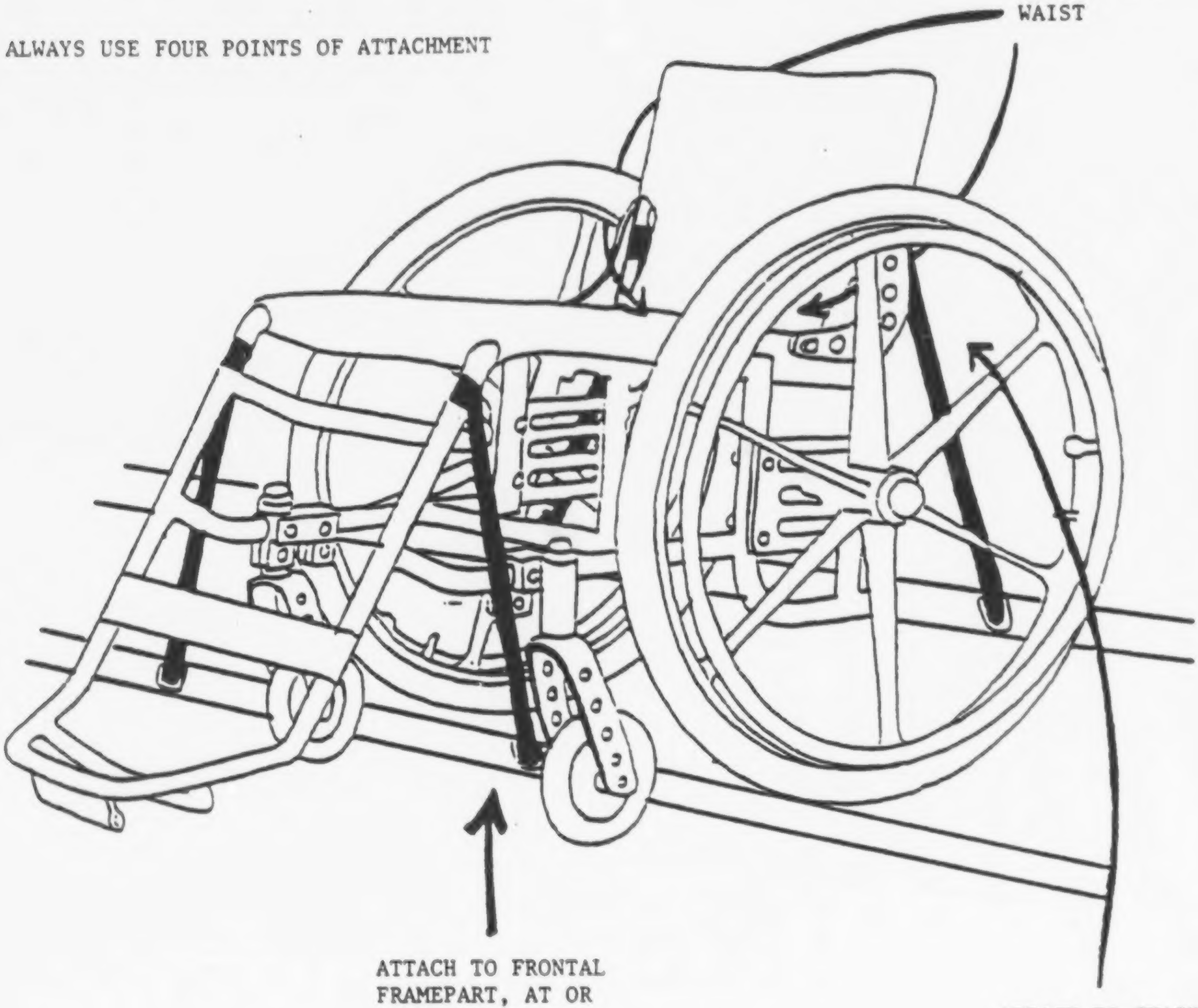
DO NOT ATTACH TO UNDER-CARRIAGE

ALWAYS USE FOUR POINTS OF ATTACHMENT

"ORTHOKINETIC" STYLE WHEELCHAIR

ALWAYS USE FOUR POINTS OF ATTACHMENT

BRING SEATBELT AROUND SEAT BACK AND CHILD'S WAIST



ATTACH TO FRONTAL FRAMEPART, AT OR NEAR KNEE LEVEL

ATTACH TO CHAIR BACK FRAME

LIGHTWEIGHT ALUMINUM "SPORTY" OR "QUICKY" CHAIR

VI. ASSISTANCE DEVICES AND GUIDELINES

A. SUCTION MACHINE

B. PROTECTIVE HEADGEAR

C. WALKERS

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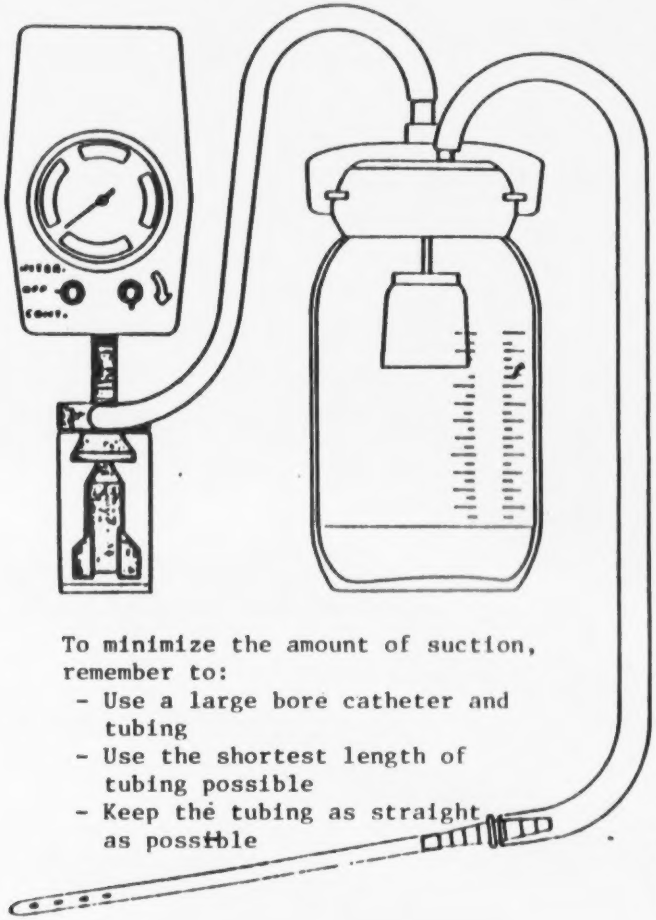
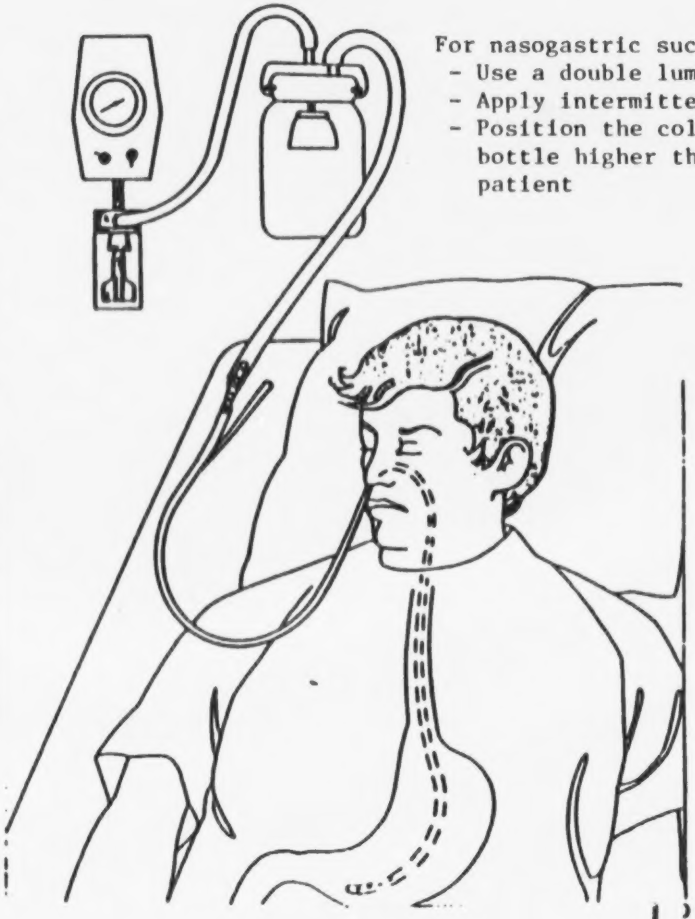
SUCTIONING



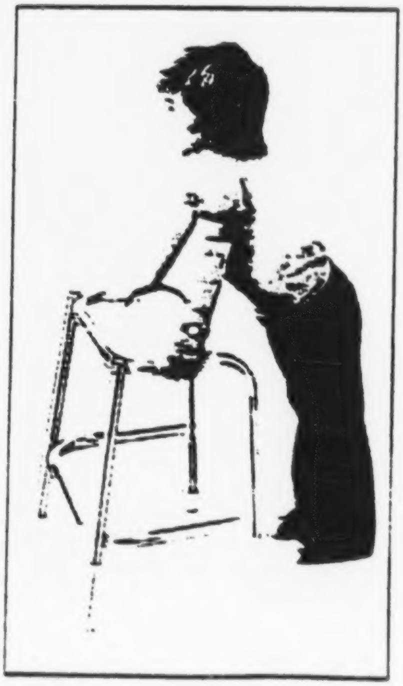
To minimize the amount of suction, remember to:
- Use a large bore catheter and tubing
- Use the shortest length of tubing possible
- Keep the tubing as straight as possible



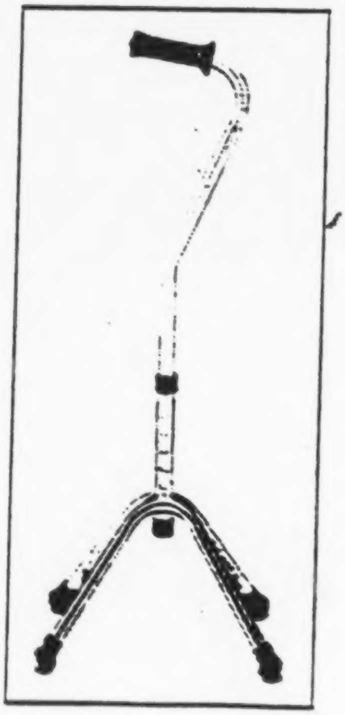
For nasogastric suctioning
- Use a double lumen catheter
- Apply intermittent suction
- Position the collection bottle higher than the patient

Protective Headgear ___________

Adjustable Mini-Walker___



Hi Base Design Quad Cane_________



VII. CONCLUSION

In conclusion it is hoped that this document will be useful to all groups associated with the transportation of special needs students. A document of this nature can never be totally comprehensive, nor can it answer all questions. The TSNSC encourages you to seek out more information from parents, school personnel, school bus drivers and attendants, and special education administrators. Specific questions pertaining to transportation should be directed to the local Supervisor of Transportation.